

TABLE 1A

Gene No.	cDNA Clone ID	ATCC Deposit No. Z and Date	Vector	NT SEQ ID NO: X	Total NT Seq.	5' NT of Clone Seq.	3' NT of Clone Seq.	5' NT of Start Codon	5' NT of First AA of Signal Pep	AA SEQ ID NO: Y	First AA of Sig Pep	Last AA of Sig Pep	First AA of Secreted Portion	Last AA of ORF
1	H6BSF56	203917 04/08/99	Uni-ZAP XR	11	605	44	605		83	515	1	6	7	141
2	H6EDM64	203959 04/26/99	Uni-ZAP XR	12	2610	1275	2377	1448	1448	516	1			6
3	H6EEC72	PTA-793 09/27/99	Uni-ZAP XR	13	1493	1	1493		263	517	1	13	14	18
4	HACAB68	203917 04/08/99	Uni-ZAP XR	14	1300	1	1300	135	135	518	1	26	27	78
5	HACBI56	203979 04/29/99	Uni-ZAP XR	15	888	1	888		250	519	1	9	10	25
6	HACBS22	203979 04/29/99	Uni-ZAP XR	16	3239	1	3239	217	217	520	1	23	24	41
7	HADDE71	203917 04/08/99	pSport1	17	667	1	667	250	250	521	1	28	29	139
8	HADDJ13	203917 04/08/99	pSport1	18	2318	1	2318	347	347	522	1	20	21	30
9	HADMB15	203979 04/29/99	pBluescript	19	330	1	330		238	523	1	11	12	20

Gene No.	cDNA Clone ID	ATCC Deposit No./Z and Date	Vector	NT SEQ ID NO: X	Total NT Seq.	5' NT of Clone Seq.	3' NT of Clone Seq.	5' NT of AA of Signal Pep	First AA of ID NO: Y	First AA of Sig Pep	Last AA of Secreted Portion	Last AA of ORF	
10	HAGBQ12	203917 04/08/99	Uni-ZAP XR	20	743	1	743	171	524	1	19	20	21
11	HAGDW20	203917 04/08/99	Uni-ZAP XR	21	1284	1	1284	238	525	1	16	17	17
12	HAGEG10	203917 04/08/99	Uni-ZAP XR	22	5684	100	2890	146	526	1	29	30	55
13	HAGEQ79	203917 04/08/99	Uni-ZAP XR	23	785	1	785	515	527	1			11
14	HAGFS57	203979 04/29/99	Uni-ZAP XR	24	874	1	874	241	528	1	26	27	54
15	HAGHN57	203917 04/08/99	Uni-ZAP XR	25	2440	843	2440	900	529	1			10
16	HAHEA15	203979 04/29/99	Uni-ZAP XR	26	1346	1	1346	196	530	1			13
17	HAJAA47	203917 04/08/99	pCMVSPORT 3.0	27	1237	1	1237	192	531	1	15	16	38
18	HAJAY92	203959 04/26/99	pCMVSPORT 3.0	28	2345	1	2345	12	532	1	20	21	94
19	HAJBV67	PTA-181 06/07/99	pCMVSPORT 3.0	29	2536	1	2536	605	533	1	19	20	359
20	HAJCH70	203917 04/08/99	pCMVSPORT 3.0	30	2182	1	2182	284	534	1	32	33	38

Gene No.	cDNA Clone ID	ATCC Deposit No.Z and Date	Vector	NT SEQ ID NO: X	Total NT Seq.	5' NT 3' NT of Clone Seq.	5' NT of AA of Signal Pep	5' NT of AA of ID NO: Y	First AA of Sig Pep	Last AA of Secreted Portion	Last AA of ORF		
21	HAOAG15	203979 04/29/99	pSport1	31	5143	7	4802	8	535	1	22	23	1167
22	HAQA192	203917 04/08/99	Uni-ZAP XR	32	607	1	602	250	536	1	15	16	23
23	HAQCE11	203917 04/08/99	Uni-ZAP XR	33	596	1	596	262	537	1			3
24	HATB194	203917 04/08/99	Uni-ZAP XR	34	1380	1	1380	18	538	1	20	21	68
25	HATCB45	203917 04/08/99	Uni-ZAP XR	35	903	1	903	268	539	1	16	17	42
26	HATCD80	203917 04/08/99	Uni-ZAP XR	36	1809	95	1809	296	540	1	23	24	37
27	HATCI03	203917 04/08/99	Uni-ZAP XR	37	934	1	934	271	541	1			17
28	HATEH20	203917 04/08/99	Uni-ZAP XR	38	850	1	850	93	542	1	19	20	42
29	HBAGD86	203917 04/08/99	pSport1	39	1713	293	1596	521	543	1	18	19	19
30	HBCJL35	PTA-794 09/27/99	pSport1	40	720	1	720	17	544	1	27	28	124

Gene No.	cDNA Clone ID	ATCC Deposit No. Z and Date	Vector	NT SEQ ID NO: X	Total NT Seq.	5' NT 3' NT of Clone Seq.	5' NT of AA of Signal Pep	5' NT of AA SEQ ID NO: Y	First AA of Sig Pep	Last AA of Sig Pep	First AA of Secreted Portion	Last AA of ORF
30	HBCJL35	PTA-794 09/27/99	pSport1	511	2878	1027 1747	1033 1033	1015	1	27	28	124
31	HBDA891	203917 04/08/99	pSport1	41	687	1	351	545	1	19	20	29
32	HBDA891	203917 04/08/99	pSport1	42	1007	320 1007	671 671	546	1	19	20	29
33	HGBGC29	203917 04/08/99	Uni-ZAP XR	43	1856	764 1829	1016	547	1			2
34	HBGNC72	PTA-793 09/27/99	Uni-ZAP XR	44	802	1 802	550	548	1	8	9	76
35	HBHAA05	203917 04/08/99	Uni-ZAP XR	45	690	1 690	110	549	1	16	17	58
36	HBHAA81	203959 04/26/99	Uni-ZAP XR	46	1647	1 1647	28	550	1	24	25	203
37	HBIAA59	203917 04/08/99	Uni-ZAP XR	47	2392	1612 2392	1877 1877	551	1	15	16	136
38	HBIAA29	203917 04/08/99	Uni-ZAP XR	48	1782	808 1545	1036 1036	552	1	24	25	29
39	HBICW51	203917 04/08/99	Uni-ZAP XR	49	619	1 619	289	553	1	16	17	42

Gene No.	cDNA Clone ID	ATCC Deposit No./Z and Date	Vector	NT SEQ ID NO: X	Total NT Seq.	5' NT 3' NT of Clone Seq.	5' NT of AA of Signal Pep	5' NT of AA of ID NO: Y	First AA of Sig Pep	Last AA of Sig Pep	First Secreted Portion	Last of AA of ORF	
40	HBJAB02	203917 04/08/99	Uni-ZAP XR	50	1693	1	1665	84	554	1	27	28	34
41	HBJAC65	203917 04/08/99	Uni-ZAP XR	51	1685	1	892	137	555	1	13	14	23
42	HBJBM12	203917 04/08/99	Uni-ZAP XR	52	1135	1	1135	47	556	1			31
43	HBJCR46	203917 04/08/99	Uni-ZAP XR	53	3208	2270	3202	589	557	1	1	2	733
44	HBJDS79	203917 04/08/99	Uni-ZAP XR	54	2325	896	2325	1032	558	1	37	38	107
45	HBJDW56	203917 04/08/99	Uni-ZAP XR	55	637	1	637	121	559	1			8
46	HBJEL16	203979 04/29/99	Uni-ZAP XR	56	750	1	750	115	560	1	24	25	36
47	HBJFK45	203917 04/08/99	Uni-ZAP XR	57	543	1	543	430	561	1			8
48	HBJIG20	PTA-181 06/07/99	Uni-ZAP XR	58	637	1	637	321	562	1	16	17	77
49	HBJKD16	203979 04/29/99	Uni-ZAP XR	59	1629	1	1629	78	563	1	18	19	31
50	HBM96	203917 04/08/99	pBluescript	60	1076	1	1076	170	564	1			4

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51	HBMBX01	203917 04/08/99	pBluescript	61	1652	179	1458	363	363	565	1	18	19	28
52	HBMTM11	203917 04/08/99	Uni-ZAP XR	62	1639	1	1639	125	125	566	1	19	20	31
53	HBMTX26	203917 04/08/99	Uni-ZAP XR	63	1308	1	1308	107	107	567	1	46	47	89
54	HBMTY48	203917 04/08/99	Uni-ZAP XR	64	1891	1	1891	660	660	568	1	36	37	94
55	HBMUH74	PTA-181 06/07/99	Uni-ZAP XR	65	726	1	726	344	344	569	1	13	14	28
56	HBMWE61	203917 04/08/99	Uni-ZAP XR	66	1118	1	1118	238	238	570	1			9
57	HBNAX40	203917 04/08/99	Uni-ZAP XR	67	2793	2455	2793	2497	2497	571	1	18	19	49
58	HBNB376	203917 04/08/99	Uni-ZAP XR	68	1974	1469	1974		1603	572	1	29	30	68
59	HBQAB79	203917 04/08/99	Lambda ZAP II	69	1331	1	1331	190	190	573	1			11
60	HBQAC57	203917 04/08/99	Lambda ZAP II	70	2111	1	2111	146	146	574	1			29

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61	HBSAK32	PTA-181 06/07/99	Uni-ZAP XR	71	592	129	592	447	447	575	1	27	28	48
62	HBXCM66	203917 04/08/99	ZAP Express	72	1010	41	1010	119	119	576	1			16
63	HBXCX15	203917 04/08/99	ZAP Express	73	1219	1	1219		1148	577	1			1
64	HCDCY76	203917 04/08/99	Uni-ZAP XR	74	1392	628	1392		860	578	1	17	18	35
65	HCDDL48	203917 04/08/99	Uni-ZAP XR	75	813	1	813	333	333	579	1	12	13	40
66	HCEIG78	203917 04/08/99	Uni-ZAP XR	76	1896	1	1896	77	77	580	1	17	18	254
67	HCE2H52	203979 04/29/99	Uni-ZAP XR	77	1276	1	1276		29	581	1	15	16	23
68	HCE3B04	203917 04/08/99	Uni-ZAP XR	78	1807	1347	1806		1588	582	1	13	14	32
69	HCE5F78	203917 04/08/99	Uni-ZAP XR	79	1732	282	1732		566	583	1	8	9	32
70	HCEDR26	203917 04/08/99	Uni-ZAP XR	80	1419	1	1419	177	177	584	1	26	27	55
71	HCEEE79	203917 04/08/99	Uni-ZAP XR	81	1052	1	1052	131	131	585	1	15	16	55

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72	HCEEQ25	203917 04/08/99	Uni-ZAP XR	82	992	1	992	111	586	1	15	16	23
73	HCEEU18	203917 04/08/99	Uni-ZAP XR	83	1229	1	1229	209	587	1	30	31	43
74	HCEZF282	203917 04/08/99	Uni-ZAP XR	84	1811	44	1781	215	588	1	16	17	265
75	HCEGX05	203917 04/08/99	Uni-ZAP XR	85	1305	1	1305	237	589	1			15
76	HCFLN88	203917 04/08/99	pSport1	86	1434	1	1434	101	590	1	16	17	25
77	HCFLT90	203917 04/08/99	pSport1	87	910	1	735	384	591	1			1
78	HCHAB84	203979 04/29/99	pSport1	88	1359	62	1359	304	592	1	23	24	147
79	HCMSX51	203917 04/08/99	Uni-ZAP XR	89	2253	334	2190	539	593	1	31	32	80
80	HCNCO11	203917 04/08/99	Lambda ZAP II	90	746	1	746	101	594	1			14
81	HCNSD29	PTA-181 06/07/99	pBluescript	91	1728	1031	1633	1145	595	1	19	20	31
82	HCQBH72	203917 04/08/99	Lambda ZAP II	92	1796	776	1796	31	596	1	25	26	47

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83	HCQCC96	203979 04/29/99	Lambda ZAP II	93	2166	632	782	782	597	1	20	21
84	HCQCJ56	203917 04/08/99	Lambda ZAP II	94	1287	1	1287	728	598	1		1
85	HCQCM24	203979 04/29/99	Lambda ZAP II	95	1929	606	1929	815	599	1		38
86	HCRA Y10	203917 04/08/99	Uni-ZAP XR	96	788	1	788	141	600	1	36	37
87	HCRCB72	203917 04/08/99	Uni-ZAP XR	97	1264	101	1142	191	601	1	1	2
88	HCRNF78	203917 04/08/99	pSport1	98	892	1	892	363	602	1	22	23
89	HCUAF85	203917 04/08/99	ZAP Express	99	597	1	597	230	603	1	23	24
90	HCUCF89	203917 04/08/99	ZAP Express	100	530	1	530	189	604	1	18	19
91	HCUCK44	203957 04/26/99	ZAP Express	101	1143	578	1136	598	605	1	30	31
92	HCUDD64	203917 04/08/99	ZAP Express	102	402	150	389	256	606	1	35	36
93	HCWAE64	203917 04/08/99	ZAP Express	103	471	1	471	410	607	1		5

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94	HCWFLU39	203917 04/08/99	ZAP Express	104	467	1	467	282	282	608	1	9	10	22
95	HCWUL09	203917 04/08/99	ZAP Express	105	761	3	761	333	333	609	1			11
96	HDHAA42	203917 04/08/99	pCMV'Sport 2.0	106	943	1	943	48	48	610	1	25	26	26
97	HDHEB76	203917 04/08/99	pCMV'Sport 2.0	107	497	1	497		416	611	1	11	12	12
98	HDPCW16	203960 04/26/99	pCMV'Sport 3.0	108	1536	1	1536	172	172	612	1	38	39	55
99	HDPDI72	PTA-794 09/27/99	pCMV'Sport 3.0	109	1550	1	1550	23	23	613	1	17	18	120
100	HDPDI58	203960 04/26/99	pCMV'Sport 3.0	110	1997	1	1997	279	279	614	1			20
101	HDPFF10	PTA-181 06/07/99	pCMV'Sport 3.0	111	2582	3	2582	186	186	615	1	19	20	425
102	HDPFU43	203960 04/26/99	pCMV'Sport 3.0	112	1904	1	1889	220	220	616	1	28	29	52
103	HDPFY18	203918 04/08/99	pCMV'Sport 3.0	113	2187	1	2187	161	161	617	1			7

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104	HDPE24	203960 04/26/99	pCMVSPORT 3.0	114	2625	1	2625	173	618	1	11	12	73
105	HDPIU94	203960 04/26/99	pCMVSPORT 3.0	115	2196	21	2196	208	619	1	21	22	23
106	HDPOC24	203960 04/26/99	pCMVSPORT 3.0	116	1777	302	1725	418	620	1	23	24	133
107	HDPOL37	203960 04/26/99	pCMVSPORT 3.0	117	1489	1	1489	189	621	1	32	33	62
108	HDPO076	203960 04/26/99	pCMVSPORT 3.0	118	645	1	645	109	622	1	15	16	16
109	HDPPD93	203960 04/26/99	pCMVSPORT 3.0	119	701	1	701	28	623	1			12
110	HDPPQ30	203960 04/26/99	pCMVSPORT 3.0	120	1063	1	1063	220	624	1	22	23	38
111	HDPPW82	203959 04/26/99	pCMVSPORT 3.0	121	552	1	552	395	625	1			29
112	HDPPXN20	203960 04/26/99	pCMVSPORT 3.0	122	1756	1	1756	61	626	1	20	21	41
113	HDQHM36	PTA-181 06/07/99	pCMVSPORT 3.0	123	1547	1	1547	129	627	1	18	19	48
114	HDTAU35	203960 04/26/99	pCMVSPORT 2.0	124	377	1	377	260	628	1	12	13	17

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115	HDTAV54	203960 04/26/99	pCMVSPORT 2.0	125	660	1	660	191	191	629	1	22	23	33
116	HDTFX18	203960 04/26/99	pCMVSPORT 2.0	126	678	1	678	164	164	630	1	16	17	20
117	HDTGW48	203960 04/26/99	pCMVSPORT 2.0	127	2261	1	2261		375	631	1	17	18	29
118	HDTLM18	203960 04/26/99	pCMVSPORT 2.0	128	525	1	525	345	345	632	1	18	19	60
119	HE2CA60	203960 04/26/99	Uni-ZAP XR	129	1663	308	1663	360	360	633	1			7
120	HE2CA60	203960 04/26/99	Uni-ZAP XR	130	3034	1679	3034	1731	1731	634	1			7
121	HE2CH58	203960 04/26/99	Uni-ZAP XR	131	809	1	809	321	321	635	1	8	9	52
122	HE2CM39	203960 04/26/99	Uni-ZAP XR	132	566	1	566		10	636	1			13
123	HE2HC60	203960 04/26/99	Uni-ZAP XR	133	1569	236	1569	273	273	637	1	16	17	39
124	HE2PO93	203960 04/26/99	Uni-ZAP XR	134	1323	638	1323	770	770	638	1	27	28	42
125	HE6AU52	203960 04/26/99	Uni-ZAP XR	135	845	1	845	41	41	639	1	18	19	41

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126	HE6CS65	203960 04/26/99	Uni-ZAP XR	136	1526	1	1526		295	640	1	10	11	62
127	HE6DO92	203960 04/26/99	Uni-ZAP XR	137	941	1	941	38	38	641	1	20	21	25
128	HE6EY13	203979 04/29/99	Uni-ZAP XR	138	867	1	867	171	171	642	1	14	15	46
129	HE6FU11	203979 04/29/99	Uni-ZAP XR	139	2000	1	1994	145	145	643	1	26	27	226
130	HE6FV29	203960 04/26/99	Uni-ZAP XR	140	1526	1	1526	210	210	644	1	18	19	33
131	HE8FC45	203979 04/29/99	Uni-ZAP XR	141	1887	1	1887	155	155	645	1	33	34	47
132	HE8FC45	203979 04/29/99	Uni-ZAP XR	142	1887	1	1887	155	155	646	1	33	34	47
133	HE8FD92	203979 04/29/99	Uni-ZAP XR	143	1995	1	1978	157	157	647	1	25	26	43
134	HE8FD92	203979 04/29/99	Uni-ZAP XR	144	2908	918	2891	1074	1074	648	1	25	26	43
135	HE8FD92	203979 04/29/99	Uni-ZAP XR	145	4907	2918	4890		2	649	1	1	2	471
136	HE8FD92	203979 04/29/99	Uni-ZAP XR	146	4102	2114	4085	2268	2268	650	1	25	26	43

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137	HE8FD92	203979 04/29/99	Uni-ZAP XR	147	3977	1986	3960	2141	651	1	25	26	43
138	HE8SG96	PTA-181 06/07/99	Uni-ZAP XR	148	2036	1	2036	118	652	1	17	18	24
139	HE8TY46	PTA-1838 05/09/00	Uni-ZAP XR	149	2204	1400	2204	1413	653	1	18	19	187
140	HE9CY05	203960 04/26/99	Uni-ZAP XR	150	1047	47	1047	55	654	1	21	22	235
141	HE9EA10	203960 04/26/99	Uni-ZAP XR	151	2114	1	2111	212	655	1	28	29	78
142	HE9GG20	203960 04/26/99	Uni-ZAP XR	152	676	1	676	319	656	1			9
143	HEBCI18	203960 04/26/99	Uni-ZAP XR	153	1121	713	1050	855	657	1	43	44	69
144	HEBCY54	203960 04/26/99	Uni-ZAP XR	154	1189	1	1189	172	658	1	24	25	118
145	HEBDF77	203960 04/26/99	Uni-ZAP XR	155	1820	1	1820	681	659	1	29	30	36
146	HEBDQ91	203960 04/26/99	Uni-ZAP XR	156	1573	1007	1573	1211	660	1	29	30	41

Gene No.	cDNA Clone ID	ATCC Deposit No:Z and Date	Vector	NT SEQ ID NO: X	Total Clone Seq.	5' NT 3' NT of Clone Seq.	5' NT Start Codon	5' NT of First AA of Signal Pep	AA SEQ NO: Y	First AA of Sig Pep	Last AA of Sig Pep	First AA of Secreted Portion	Last AA of ORF
147	HEBFR46	203979 04/29/99	Uni-ZAP XR	157	1304	1	1304	200	661	1	26	27	29
148	HEBGE07	203960 04/26/99	Uni-ZAP XR	158	1867	1	1867	106	662	1	25	26	42
149	HEGAU15	203960 04/26/99	Uni-ZAP XR	159	1125	1	1125	59	663	1	30	31	34
150	HELAT35	203960 04/26/99	Uni-ZAP XR	160	2168	1	2168	215	664	1			20
151	HELBUS4	203960 04/26/99	Uni-ZAP XR	161	1260	1	1260	82	665	1			17
152	HELGG84	203960 04/26/99	Uni-ZAP XR	162	1109	12	1109	147	666	1	16	17	22
153	HELGG84	203960 04/26/99	Uni-ZAP XR	163	1109	12	1109	147	667	1	16	17	22
154	HEMEY47	203979 04/29/99	Uni-ZAP XR	164	1614	204	1614	440	668	1			10
155	HEOMC46	PTA-181 06/07/99	pSport1	165	939	1	939	154	669	1	40	41	51
156	HEPBA14	PTA-181 06/07/99	Uni-ZAP XR	166	746	1	746	664	670	1	13	14	15

Gene No.	cDNA Clone ID	ATCC Deposit No./Z and Date	Vector	NT SEQ ID NO: X	5' NT of Clone Seq.	5' NT of Clone Seq.	5' NT of AA of Signal Pep	First AA of Signal	First AA of Secreted Portion	Last AA of Secreted Portion	Last AA of ORF			
157	HEQAH80	203960 04/26/99	pCMVSPORT 3.0	167	1647	1	1647	150	150	671	1	26	27	32
158	HEQBF89	203960 04/26/99	pCMVSPORT 3.0	168	859	1	859	306	306	672	1	18	19	50
159	HETCI16	203979 04/29/99	Uni-ZAP XR	169	2285	73	2285	237	237	673	1	27	28	40
160	HETDW58	203979 04/29/99	Uni-ZAP XR	170	1533	328	1533	541	541	674	1	16	17	22
161	HETEX67	203960 04/26/99	Uni-ZAP XR	171	1778	1	1778		292	675	1	13	14	66
162	HFCDW95	203979 04/29/99	Uni-ZAP XR	172	871	1	871		151	676	1			2
163	HFCED04	203960 04/26/99	Uni-ZAP XR	173	887	1	887		136	677	1	17	18	42
164	HFCFD04	203960 04/26/99	Uni-ZAP XR	174	1437	1	1437	170	170	678	1			15
165	HFCFE20	203960 04/26/99	Uni-ZAP XR	175	1205	1	1205	216	216	679	1			18
166	HFEAY59	203960 04/26/99	Uni-ZAP XR	176	1153	1	1153	154	154	680	1	24	25	40
167	HFGAJ16	203960 04/26/99	Uni-ZAP XR	177	866	1	866	40	40	681	1	22	23	31

Gene No.	cDNA Clone ID	ATCC Deposit No./Z and Date	Vector	NT SEQ ID NO: X	Total NT Seq.	5' NT of Clone Seq.	5' NT 3' NT of Clone Seq.	5' NT of AA of Signal Pep	First AA of Sig Pep	Last AA of Sig Pep	First AA of Secreted Portion	Last AA of ORF	
168	HFHIZ75	203960 04/26/99	pSport1	178	1280	454	1165	700	682	1	21	22	51
169	HFHIA29	203960 04/26/99	pSport1	179	1275	110	1275	175	683	1	27	28	82
170	HFHIA68	203979 04/29/99	pSport1	180	1157	1	1157	283	684	1	22	23	43
171	HFKE505	203960 04/26/99	Uni-ZAP XR	181	1885	1	1885	243	685	1	17	18	42
172	HFKEU12	203960 04/26/99	Uni-ZAP XR	182	1031	1	1031	6	686	1	16	17	55
173	HFPCZ55	203960 04/26/99	Uni-ZAP XR	183	2735	341	2735	676	687	1	24	25	44
174	HFPDR62	203960 04/26/99	Uni-ZAP XR	184	2644	1	2644	414	688	1	28	29	35
175	HFPDS07	203960 04/26/99	Uni-ZAP XR	185	3115	2302	3114	2546	689	1	23	24	25
176	HFRAB10	203960 04/26/99	Uni-ZAP XR	186	1419	1	1419	203	690	1	27	28	45
177	HFTBM38	203960 04/26/99	Uni-ZAP XR	187	1941	322	1941	577	691	1	18	19	30
178	HFTDH56	PTA-181 06/07/99	Uni-ZAP XR	188	820	1	820	67	692	1			10

Gene No.	cDNA Clone ID	ATCC Deposit No. Z and Date	Vector	NT SEQ ID NO: X	5' NT of Clone Seq.	5' NT of Clone Seq.	5' NT of AA of Signal Pep	First AA of Sig Pep	Last AA of Sig Pep	First AA of Secreted Portion	Last AA of ORF
179	HFV/GK35	203960 04/26/99	pBluescript	189	1236	1	14	693	1		5
180	HFV/HW43	203960 04/26/99	pBluescript	190	1233	1	92	694	1	30	39
181	HFV/V37	203960	Lambda ZAP II	191	1520	40	163	695	1	13	36
182	HFV/XB86	PTA-181 06/07/99	Lambda ZAP II	192	1379	1	149	696	1	25	65
183	HFV/BT66	203960 04/26/99	Lambda ZAP II	193	1001	1	172	697	1	15	26
184	HFV/FZ46	203960 04/26/99	Lambda ZAP II	194	1378	1	258	698	1		6
185	HGBER72	203960 04/26/99	Uni-ZAP XR	195	1316	1	43	699	1	16	19
186	HGBEY14	203960 04/26/99	Uni-ZAP XR	196	1738	1	233	700	1	18	39
187	HGBGN34	203960 04/26/99	Uni-ZAP XR	197	528	1		701	1	32	48
188	HGBHP91	203960 04/26/99	Uni-ZAP XR	198	1054	1		702	1	14	52
189	HGCAC19	203960 04/26/99	pSport1	199	5061	23		703	1		9

Gene No.	cDNA Clone ID	ATCC Deposit No. and Date	Vector	NT SEQ ID NO: X	5' NT of Clone Seq. Total NT Seq.	5' NT of Clone Seq.	5' NT of AA of Signal Pep	AA SEQ ID Y	First AA of Sig Pep	Last AA of Sig Pep	First AA of Secreted Portion	Last AA of ORF
190	HGCAC19	203960 04/26/99	pSport1	200	1534 23	1534	317	704	1			9
191	HGCAC19	203960 04/26/99	pSport1	201	1771 21	1473	315	705	1			9
192	HHEAK45	203960 04/26/99	pCMVSPORT 3.0	202	2014 87	1935	813	706	1			3
193	HHEGS55	PTA-181 06/07/99	pCMVSPORT 3.0	203	594 2	594	159	707	1	16	17	36
194	HHEOW19	PTA-793 09/27/99	pCMVSPORT 3.0	204	1589 1	1589	183	708	1	18	19	64
195	HHFF87	203960 04/26/99	Uni-ZAP XR	205	1547 1	1547	229	709	1			41
196	HHFFL34	203960 04/26/99	Uni-ZAP XR	206	2632 1	2632	42	710	1	21	22	223
197	HHFFS40	203960 04/26/99	Uni-ZAP XR	207	1816 1	1816	37	711	1	18	19	47
198	HHGCS78	203960 04/26/99	Lambda ZAP II	208	575 46	575	290	712	1	17	18	24
199	HHGDT26	203960 04/26/99	Lambda ZAP II	209	1584 1	1584	181	713	1			8

Gene No.	cDNA Clone ID	ATCC Deposit No. and Date	Vector	NT SEQ ID NO: X	5' NT of Clone Seq.	5' NT of Clone Seq.	5' NT of AA of Signal Pep	5' NT of AA of Signal Pep	First AA of Sig Pep	Last AA of Sig Pep	First AA of Secreted Portion	Last AA of ORF
200	HHPFU28	203960 04/26/99	Uni-ZAP XR	210 1838	1 1838		156 714	1 18	19	27		
201	HHPSA85	203960 04/26/99	pBluescript	211 1147	1 1147	157	157 715	1 28	29	38		
202	HHSB106	203959 04/26/99	Uni-ZAP XR	212 1049	27 803		690 716	1		5		
203	HHSB165	203917 04/08/99	Uni-ZAP XR	213 1444	1 1431	62	62 717	1 17	18	55		
204	HHSD153	PTA-181 06/07/99	Uni-ZAP XR	214 1277	1 1277	221	221 718	1 14	15	24		
205	HHSF09	203960 04/26/99	Uni-ZAP XR	215 531	1 531		380 719	1 10	11	32		
206	HHSG128	203960 04/26/99	Uni-ZAP XR	216 1093	1 1093	453	453 720	1		6		
207	HILCA24	203960 04/26/99	pBluescript SK-	217 1980	151 1976	189	189 721	1 29	30	327		
208	HILCA24	203960 04/26/99	pBluescript SK-	218 1982	153 1982	191	191 722	1 29	30	327		
209	HISA167	203959 04/26/99	pSport1	219 2154	1061 2142	1239	1239 723	1 35	36	56		
210	HJBCU75	203957 04/26/99	pBluescript SK-	220 1009	1 1009	61	61 724	1		5		

Gene No.	cDNA Clone ID	ATCC Deposit No. and Date	Vector	NT SEQ ID NO: X	NT Total NT Seq.	5' NT of Clone Seq.	3' NT of Clone Seq.	5' NT Start Codon	5' NT First AA of Signal Pep	AA SEQ NO: Y	First AA of Sig Pep	Last AA of Sig Pep	First AA of Secreted Portion	Last AA of ORF
211	HJMAA03	203957 04/26/99	pCMVSPORT 3.0	221	665	1	665		527	725	1			9
212	HJMAV41	PTA-181 06/07/99	pCMVSPORT 3.0	222	1017	1	1017	207	207	726	1			27
213	HJMA Y90	203959 04/26/99	pCMVSPORT 3.0	223	2886	2233	2886		2492	727	1	22	23	34
214	HJPBE39	203957 04/26/99	Uni-ZAP XR	224	1298	69	1298		170	728	1			18
215	HJPBK28	203957 04/26/99	Uni-ZAP XR	225	989	1	989		256	729	1	21	22	43
216	HJPCB08	203959 04/26/99	Uni-ZAP XR	226	879	1	879		374	730	1	10	11	117
217	HKABU43	203959 04/26/99	pCMVSPORT 2.0	227	1919	581	1919	755	755	731	1	20	21	281
218	HKACI79	PTA-181 06/07/99	pCMVSPORT 2.0	228	1181	1	1181	207	207	732	1	14	15	50
219	HKAF50	203957 04/26/99	pCMVSPORT 2.0	229	1801	1	1801	343	343	733	1	13	14	50
220	HKGBF25	203957 04/26/99	pSport1	230	2007	1	2007	261	261	734	1	18	19	36

Gene No.	cDNA Clone ID	ATCC Deposit No. and Date	Vector	NT SEQ ID NO:	NT Total Seq.	5' NT of Clone Seq.	3' NT of Clone Seq.	5' NT of AA of Signal Pep	5' NT of AA of Signal Pep	First AA of Sig Pep	Last AA of Sig Pep	First AA of Secreted Portion	Last AA of ORF
221	HKIXC44	203957 04/26/99	pBluescript	231	788	343	750	572	572	735	1	26	27
222	HKMLK03	203957 04/26/99	pBluescript	232	1049	1	1049	214	214	736	1		11
223	HKMLM95	203957 04/26/99	pBluescript	233	1098	1	1098		390	737	1		4
224	HKTAB41	203957 04/26/99	Uni-ZAP XR	234	797	1	797	172	172	738	1		10
225	HLDBG17	PTA-181 06/07/99	pCMVSPORT 3.0	235	652	1	652	184	184	739	1	23	24
226	HLDCAS4	203979 04/29/99	pCMVSPORT 3.0	236	1815	425	1815	550	550	740	1	26	27
227	HLDQU79	203959 04/26/99	pCMVSPORT 3.0	237	1488	1	1488	99	99	741	1	23	24
227	HLDQU79	203959 04/26/99	pCMVSPORT 3.0	512	3179	163	1474	75	75	1016	1	29	30
228	HLDRTO9	203957 04/26/99	pCMVSPORT 3.0	238	721	254	665	522	522	742	1	20	21
229	HLHAP05	203957 04/26/99	Uni-ZAP XR	239	1842	12	1842	45	45	743	1		14
230	HLHCS23	203957 04/26/99	Uni-ZAP XR	240	1427	1	1427	25	25	744	1	24	25

Gene No.	cDNA Clone ID	ATCC Deposit No. Z and Date	Vector	NT SEQ ID NO: X	5' NT of Total NT Seq.	5' NT of Clone Seq.	5' NT of Clone Seq.	5' NT of First AA of Signal Pep	AA SEQ NO: Y	First AA of Signal Pep	Last AA of Signal Pep	First AA of Secreted Portion	Last AA of ORF
241	HLQCX36	203957 04/26/99	Lambda ZAP II	251	1243	1	1243	89	755	1	16	17	52
242	HLWAF06	203957 04/26/99	pCMVSPORT 3.0	252	2564	1	2564	192	756	1	18	19	30
243	HLWAU42	203957 04/26/99	pCMVSPORT 3.0	253	2495	1542	2488	1751	757	1	17	18	57
244	HLWAU42	203957 04/26/99	pCMVSPORT 3.0	254	947	1	947	220	758	1	17	18	57
245	HLWAV47	PTA-795 09/27/99	pCMVSPORT 3.0	255	2062	1	2062	200	759	1	29	30	32
246	HLWBB73	203957 04/26/99	pCMVSPORT 3.0	256	1716	1	1716	122	760	1	32	33	50
247	HLWCN37	203957 04/26/99	pCMVSPORT 3.0	257	788	1	788	81	761	1	40	41	43
248	HLWDB73	203957 04/26/99	pCMVSPORT 3.0	258	1611	1	1611	95	762	1	27	28	35
249	HLYDF73	203957 04/26/99	pSPORT1	259	626	1	626	363	763	1	11	12	23
250	HLYEU59	203957 04/26/99	pSPORT1	260	1146	1	1146	258	764	1	24	25	43
251	HLYGB19	203959 04/26/99	pSPORT1	261	2967	1527	2966	1863	765	1			14

Gene No.	cDNA Clone ID	ATCC Deposit No.Z and Date	Vector	NT SEQ ID NO: X	Total NT Seq.	5' NT of Clone Seq.	3' NT of Clone Seq.	5' NT of Start Codon	5' NT of AA of Signal Pep Y	AA of ID NO: Y	First AA of Sig Pep	Last AA of Sig Pep	First Secreted Portion	Last of AA of ORF
252	HLYGE16	203957 04/26/99	pSport1	262	752	1	752	406	406	766	1	17	18	73
253	HLYGY91	203957 04/26/99	pSport1	263	640	1	640	211	211	767	1	20	21	42
254	HMC A Z04	203917 04/08/99	Uni-ZAP XR	264	1733	405	1670	106	106	768	1	25	26	450
255	HMC A Z04	203917 04/08/99	Uni-ZAP XR	265	1733	405	1670	497	497	769	1	20	21	35
256	HMC A Z04	203917 04/08/99	Uni-ZAP XR	266	1733	406	1670	106	106	770	1	25	26	450
257	HMC A Z04	203917 04/08/99	Uni-ZAP XR	267	1735	407	1671	498	498	771	1	20	21	35
258	HMC A Z04	203917 04/08/99	Uni-ZAP XR	268	1301	1	1301	97	97	772	1	20	21	35
259	HMC FH60	203957 04/26/99	Uni-ZAP XR	269	443	1	443	211	211	773	1	17	18	48
260	HMD AB29	203957 04/26/99	Uni-ZAP XR	270	1190	1	1190	97	97	774	1	17	18	26
261	HMD AD44	203957 04/26/99	Uni-ZAP XR	271	1204	1	1204	135	135	775	1			8
262	HME BB82	203957 04/26/99	Lambda ZAP II	272	2641	1	2641	30	30	776	1	19	20	34

Gene No.	cDNA Clone ID	ATCC Deposit No. and Date	Vector	NT SEQ ID NO: X	Total NT Seq.	5' NT 3' NT of Clone Seq.	5' NT Start Codon	5' NT First AA of Signal	First AA of Sig Pep	Last AA of Sig Pep	First AA of Secreted Portion	Last AA of ORF
263	HMEDE24	203957 04/26/99	Lambda ZAP II	273	2836	884	2806	900	777	1	16	33
264	HMED190	203957 04/26/99	Lambda ZAP II	274	2276	362	2219	622	778	1	12	17
265	HMELM75	203957 04/26/99	Lambda ZAP II	275	1607	1	1607	113	779	1	18	93
266	HMI AK10	203957 04/26/99	Uni-ZAP XR	276	1064	1	1064	195	780	1	22	31
267	HMI BF07	203957 04/26/99	Uni-ZAP XR	277	1738	1	1738	229	781	1		6
268	HMICI80	203957 04/26/99	Uni-ZAP XR	278	1772	1	1772	1149	782	1	10	32
269	HMICP65	203979 04/29/99	Uni-ZAP XR	279	2048	1	2048	249	783	1	16	30
270	HMI AK70	203957 04/26/99	pSport1	280	799	1	799	273	784	1		10
271	HMSBE04	203957 04/26/99	Uni-ZAP XR	281	1396	1	1396	295	785	1		27
272	HMSCL38	203957 04/26/99	Uni-ZAP XR	282	2945	1	2945	120	786	1	25	35
273	HMSCR69	203959 04/26/99	Uni-ZAP XR	283	1667	442	1667	107	787	1	1	381

	Gene No.	cDNA Clone ID	ATCC Deposit No./Z and Date	Vector	NT SEQ ID NO: X	Total NT Seq.	5' NT of Clone Seq.	3' NT of Clone Seq.	5' NT of First AA of Signal Pep	First AA of Sig Pep	Last AA of Secreted Portion	Last AA of ORF		
	274	HMSHC86	203957 04/26/99	Uni-ZAP XR	284	1724	1	1724	37	788	1	20	21	93
	275	HMSHU20	203979 04/29/99	Uni-ZAP XR	285	2249	1	2249	50	789	1	24	25	113
	276	HMSHY25	PTA-793 09/27/99	Uni-ZAP XR	286	2205	1	2205	656	790	1	11	12	35
	277	HMTAB77	203979 04/29/99	pCMVSPORT 3.0	287	3839	1	3839	769	791	1	24	25	48
	278	HMUAE26	203957 04/26/99	pCMVSPORT 3.0	288	2000	660	2000	710	792	1	20	21	30
	279	HMUAN45	203918 04/08/99	pCMVSPORT 3.0	289	2709	1	2709	239	793	1	25	26	227
	280	HMVBC31	203957 04/26/99	pSport1	290	2556	1327	2546	1437	794	1	32	33	40
	281	HMVDU15	203979 04/29/99	pSport1	291	1351	1	1351	274	795	1	21	22	25
	282	HMWBL03	203957 04/26/99	Uni-ZAP XR	292	2596	80	2596	137	796	1	1	2	397
	283	HMWJF53	203957 04/26/99	Uni-ZAP XR	293	2288	927	2101	1015	797	1	30	31	38
	284	HNEAK81	203957 04/26/99	Uni-ZAP XR	294	1224	1	1224	288	798	1	21	22	23

Gene No.	cDNA Clone ID	ATCC Deposit No. and Date	Vector	NT SEQ ID NO: X	Total NT Seq.	5' NT of Clone Seq.	3' NT of Clone Seq.	5' NT of Start Codon	5' NT of AA SEQ NO: Y	First AA of Sig Pep	Last AA of Sig Pep	First AA of Secreted Portion	Last AA of ORF
285	HNECL22	203957 04/26/99	Unit-ZAP XR	295	2710	225	2710	472	472	799	1	23	24
286	HNECW49	203957 04/26/99	Unit-ZAP XR	296	489	1	463	316	316	800	1	20	21
287	HNEDH88	203957 04/26/99	Unit-ZAP XR	297	2073	1	2073	70	801	1	19	20	33
288	HNFAC50	203957 04/26/99	Unit-ZAP XR	298	1442	428	1442	676	802	1	22	23	32
289	HNFGR08	203957 04/26/99	Unit-ZAP XR	299	1436	1	1436		314	803	1	17	18
290	HNFHF34	203957 04/26/99	Unit-ZAP XR	300	728	1	728	178	804	1	20	21	30
291	HNGAK51	203957 04/26/99	Unit-ZAP XR	301	915	1	915	248	805	1	23	24	32
292	HNGAM58	203957 04/26/99	Unit-ZAP XR	302	1156	1	1156	68	806	1	27	28	114
293	HNGBH53	203957 04/26/99	Unit-ZAP XR	303	636	1	636	47	807	1	17	18	46
294	HNGDQ38	203957 04/26/99	Unit-ZAP XR	304	1045	1	1045	205	808	1	22	23	59
295	HNGDX18	PTA-181 06/07/99	Unit-ZAP XR	305	1425	1	1425	237	809	1	30	31	243

Gene No.	cDNA Clone ID	ATCC Deposit No. and Date	Vector	NT SEQ ID NO: X	NT Total Clone Seq.	5' NT 3' NT of Clone Seq.	5' NT of AA of Signal Codon	5' NT First AA of Signal Y	First AA of Sig Pep	Last AA of Sig Pep	First AA of Secreted Portion	Last AA of ORF
305	HNGMW45	203959 04/26/99	Uni-ZAP XR	315	1530	1	1530 452	452 819	1	26	27	43
306	HNGNK44	203959 04/26/99	Uni-ZAP XR	316	1178	302	611	611	820	1	18	74
307	HNGNO53	203959 04/26/99	Uni-ZAP XR	317	825	1	825 467	467 821	1	15	16	34
308	HNGPI25	203959 04/26/99	Uni-ZAP XR	318	853	129	853 544	544 822	1	20	21	25
309	HNHEN82	203918 04/08/99	Uni-ZAP XR	319	573	1	573	78 823	1	13	14	17
310	HNHFE71	203959 04/26/99	Uni-ZAP XR	320	903	1	903 598	598 824	1			21
311	HNHGK22	203918 04/08/99	Uni-ZAP XR	321	909	1	909 239	239 825	1	26	27	64
312	HNHHB10	203959 04/26/99	Uni-ZAP XR	322	901	1	901 215	215 826	1	28	29	59
313	HNHKS19	203959 04/26/99	Uni-ZAP XR	323	790	1	790 192	192 827	1	26	27	41
314	HNHTB17	PTA-181 06/07/99	pCMVSPORT 3.0	324	1959	1	1959 91	91 828	1			6
315	HNTHM79	203959 04/26/99	pSport1	325	922	1	922 48	48 829	1	35	36	38

Gene No.	cDNA Clone ID	ATCC Deposit No. and Date	Vector	NT SEQ ID NO: X	5' NT of Clone Seq.	3' NT of Clone Seq.	5' NT of Start Codon	5' NT of First Signal Pep	AA SEQ NO: Y	First AA of Sig Pep	Last AA of Sig Pep	First AA of Secreted Portion	Last AA of ORF
327	HOGBF01	203918 04/08/99	pCMVSPORT 2.0	337 1478	1 1478	1 1478	309 309	841 1	10 11	20			
328	HORBS82	203959 04/26/99	Uni-ZAP XR	338 1125	1 1125	1 1125	21 842	1 19	20 39				
329	HORBV76	203959 04/26/99	Uni-ZAP XR	339 1157	1 1157	1 1157	183 843	1 25	26 198				
330	HOSD075	PTA-181 06/07/99	Uni-ZAP XR	340 902	1 902	1 902	88 844	1 28					
331	HOSEC25	203959 04/26/99	Uni-ZAP XR	341 1552	1 1552	1 1552	17 845	1 18	19 24				
332	HOSEI81	203918 04/08/99	Uni-ZAP XR	342 897	1 897	1 897	203 846	1 22	23 83				
333	HOSEJ94	203979 04/29/99	Uni-ZAP XR	343 1767	622 1750	848 847	1 21	22 28					
334	HOUC A21	203918 04/08/99	Uni-ZAP XR	344 1129	1 1129	200 848	1 27	28 33					
335	HOUE92	203918 04/08/99	Uni-ZAP XR	345 1284	1 1282	70 849	1 6	7 88					
336	HOUDR07	203959 04/26/99	Uni-ZAP XR	346 1911	1 1911	170 850	1 27	28 65					

Gene No.	cDNA Clone ID	ATCC Deposit No.Z and Date	Vector	NT SEQ ID NO: X	Total NT Seq.	5' NT of Clone Seq.	3' NT of Clone Seq.	5' NT of Start Codon	5' NT of First AA of Signal Pep	AA ID NO: Y	First AA of Sig Pep	Last AA of Secreted Portion	Last of AA of ORF	
337	HOUED72	PTA-181 06/07/99	Uni-ZAP XR	347	833	76	799		144	851	1		11	
338	HOUFS04	203959 04/26/99	Uni-ZAP XR	348	2927	457	2882	520	520	852	1	42	43	72
339	HOUHI25	PTA-793 09/27/99	Uni-ZAP XR	349	1249	45	1102	188	188	853	1		20	
340	HOVBD85	203918 04/08/99	pSport1	350	1129	1	1129	252	252	854	1	19	20	26
341	HPCAB41	203918 04/08/99	Uni-ZAP XR	351	2587	1	2587	184	184	855	1		25	
342	HPCAL26	203917 04/08/99	Uni-ZAP XR	352	3097	803	3097	1021	1021	856	1	23	24	30
343	HPEAD23	203959 04/26/99	Uni-ZAP XR	353	582	1	582	188	188	857	1	13	14	93
344	HPFBA54	203959 04/26/99	Uni-ZAP XR	354	835	1	835	258	258	858	1	39	40	45
345	HPFCI36	PTA-181 06/07/99	Uni-ZAP XR	355	879	1	879	94	94	859	1	17	18	19
346	HPFDI37	PTA-181 06/07/99	Uni-ZAP XR	356	352	1	352	38	38	860	1			17

Gene No.	cDNA Clone ID	ATCC Deposit No.Z and Date	Vector	NT SEQ ID NO: X	Total NT Seq.	5' NT of Clone Seq.	3' NT of Clone Seq.	5' NT of AA of Signal Pep	5' NT of First AA of Signal Pep	AA SEQ NO: Y	First AA of Sig Pep	Last AA of Sig Pep	First AA of Secreted Portion	Last AA of ORF
347	HP1AA80	203959 04/26/99	Uni-ZAP XR	357	919	312	919		314	861	1	13	14	37
348	HP1BJ51	203959 04/26/99	Uni-ZAP XR	358	2793	522	2421	715	715	862	1	14	15	69
349	HP1BJ51	203959 04/26/99	Uni-ZAP XR	359	2795	523	2422	716	716	863	1	14	15	69
350	HP1BU43	PTA-181 06/07/99	Uni-ZAP XR	360	575	1	575		242	864	1			17
351	HP1CW58	203918 04/08/99	Uni-ZAP XR	361	1165	1	1165	177	177	865	1	19	20	28
352	HPMBX22	203959 04/26/99	Uni-ZAP XR	362	454	1	454		211	866	1			19
353	HPMCJ84	203918 04/08/99	Uni-ZAP XR	363	788	1	788	83	83	867	1	22	23	38
354	HPMCV30	203918 04/08/99	Uni-ZAP XR	364	908	1	908	52	52	868	1	27	28	47
355	HPMFH77	203918 04/08/99	Uni-ZAP XR	365	1891	1	1891		251	869	1	11	12	35
356	HPQAX38	203979 04/29/99	Lambda ZAP II	366	1157	41	1157		295	870	1	10	11	16
357	HPQAX38	203979 04/29/99	Lambda ZAP II	367	1158	41	1158		295	871	1	10	11	16

Gene No.	cDNA Clone ID	ATCC Deposit No.Z and Date	Vector	NT SEQ ID NO: X	Total NT Seq.	5' NT of Clone Seq.	3' NT of Clone Seq.	5' NT of AA of Signal Pep Codon	5' NT of AA of Signal Pep Y	First AA of Sig Pep	Last AA of Sig Pep	First AA of Secreted Portion	Last AA of ORF
368	HRADF49	PTA-181 06/07/99	pCMVSPORT 3.0	378	2704	1	2684	169	882	1	39	40	253
369	HRADN25	203959 04/26/99	pCMVSPORT 3.0	379	1225	17	1206	198	883	1	17	18	65
370	HRADT25	203959 04/26/99	pCMVSPORT 3.0	380	1324	1	1324	233	884	1	28	29	63
371	HRDAI17	203918 04/08/99	Uni-ZAP XR	381	1500	547	1500	578	885	1	27	28	31
372	HRDDQ39	203959 04/26/99	Uni-ZAP XR	382	776	1	773	215	886	1	17	18	46
373	HRDER22	203959 04/26/99	Uni-ZAP XR	383	543	1	543	32	887	1			9
374	HRDEX93	203959 04/26/99	Uni-ZAP XR	384	1681	711	1638	649	888	1	20	21	72
375	HRDFK37	203959 04/26/99	Uni-ZAP XR	385	728	1	726	120	889	1			10
376	HRGBD54	203959 04/26/99	Uni-ZAP XR	386	2301	1687	2271	1958	890	1			10
377	HROEA08	PTA-181 06/07/99	Uni-ZAP XR	387	281	1	281	50	891	1	25	26	33

Gene No.	cDNA Clone ID	ATCC Deposit No. Z and Date	Vector	NT SEQ ID NO: X	5' NT of Clone Seq.	3' NT of Clone Seq.	5' NT of Start Codon	5' NT of First Signal Pep	AA of NO: Y	First AA of Sig Pep	Last AA of Sig Pep	First Secreted Portion	Last AA of ORF
378	HSAVA08	203918 04/08/99	Uni-ZAP XR	388	1061	1	1061	66	892	1	17	18	26
379	HSAVW42	203959 04/26/99	Uni-ZAP XR	389	595	1	595	129	893	1	16	17	22
380	HSAWN53	203959 04/26/99	Uni-ZAP XR	390	349	1	349	159	894	1	29	30	63
381	HSAWZ40	203959 04/26/99	Uni-ZAP XR	391	1019	1	1019	124	895	1			37
382	HSAYC41	203959 04/26/99	Uni-ZAP XR	392	214	1	214	106	896	1	16	17	36
383	HSDZM54	203959 04/26/99	pBluescript	393	554	1	554	445	897	1	15	16	36
384	HSHBF76	203959 04/26/99	Uni-ZAP XR	394	1273	1	1213	129	898	1	7	8	10
385	HSIFG47	203959 04/26/99	Uni-ZAP XR	395	882	1	882	304	899	1			13
386	HSJBY32	203918 04/08/99	Uni-ZAP XR	396	1648	1	1648	257	900	1	19	20	91
387	HSKDR27	203918 04/08/99	Uni-ZAP XR	397	762	1	762	473	901	1	11	12	27
388	HSLHG78	203979 04/29/99	Uni-ZAP XR	398	1474	452	1474	647	902	1	20	21	70

Gene No.	cDNA Clone ID	ATCC Deposit No.Z and Date	Vector	NT SEQ ID NO: X	Total NT Seq.	5' NT of Clone Seq.	3' NT of Clone Seq.	5' NT of AA of Signal Pep	First AA of Signal Pep	AA SEQ NO: Y	First AA of Signal Pep	Last AA of Secreted Portion	Last AA of ORF	
389	HSLHX15	203959 04/26/99	Uni-ZAP XR	399	655	1	655	485	485	903	1	20	21	41
390	HSNAP85	203959 04/26/99	Uni-ZAP XR	400	1286	735	1286		941	904	1			4
391	HSNAZ09	203918 04/08/99	Uni-ZAP XR	401	626	1	626		164	905	1			14
392	HSNBM34	203959 04/26/99	Uni-ZAP XR	402	2186	1391	1765		1508	906	1	14	15	62
393	HSOAH16	203959 04/26/99	Uni-ZAP XR	403	721	1	721		206	907	1	11	12	42
394	HSQBF66	203918 04/08/99	Uni-ZAP XR	404	1024	1	1024		229	908	1	28	29	66
395	HSQDO85	PTA-181 06/07/99	Uni-ZAP XR	405	1210	1	1210	133	133	909	1			11
396	HSQES57	203959 04/26/99	Uni-ZAP XR	406	1445	1012	1428	195	195	910	1	14	15	265
397	HSRBE06	PTA-791 09/27/99	Uni-ZAP XR	407	1633	13	1633		128	911	1			21
398	HSSDI26	203918 04/08/99	Uni-ZAP XR	408	1406	1	1406	253	253	912	1			21

Gene No.	cDNA Clone ID	ATCC Deposit No.:Z and Date	Vector	NT SEQ ID NO: X	Total NT Seq.	5' NT 3' NT of Clone Seq.	5' NT of Clone Seq.	5' NT of First AA of Signal Pep	AA SEQ ID NO: Y	First AA of Sig Pep	Last AA of Secreted Portion	Last AA of ORF		
399	HSSEA64	PTA-181 06/07/99	Uni-ZAP XR	409	1282	1	1274	58	913	1	16	17	62	
400	HSSEF77	203959 04/26/99	Uni-ZAP XR	410	1053	1	1053		184	914	1	25	26	60
401	HSSFE38	203959 04/26/99	Uni-ZAP XR	411	1238	85	1133		264	915	1	19	20	125
402	HSSGJ58	203918 04/08/99	Uni-ZAP XR	412	1954	1	1954	245	916	1	17	18	38	
403	HSWBE76	203959 04/26/99	pCMVSPORT 3.0	413	874	250	710	380	917	1	34	35	59	
404	HSXCP38	PTA-795 09/27/99	Uni-ZAP XR	414	2206	1	2206		211	918	1		14	
405	HSYB106	203918 04/08/99	pCMVSPORT 3.0	415	956	1	956	232	919	1	21	22	33	
406	HT1SC27	203959 04/26/99	Uni-ZAP XR	416	1198	1	1198	366	920	1	19	20	27	
407	HT3BF49	203959 04/26/99	Uni-ZAP XR	417	2174	1	2174		306	921	1		4	
408	HT4FV41	PTA-181 06/07/99	Uni-ZAP XR	418	1764	1	1764		39	922	1	16	17	137

Gene No.	cDNA Clone ID	ATCC Deposit No:Z and Date	Vector	NT SEQ ID NO:	NT Total Seq. X	5' NT of Clone Seq.	3' NT of Clone Seq.	5' NT of AA of Signal Codon	5' NT of First AA	AA SEQ ID NO:	First AA of Sig Pep	Last AA of Secreted Portion	Last AA of ORF
409	HT3FX79	203959 04/26/99	Uni-ZAP XR	419	682	59	682	228	923	1	17	18	50
410	HT5GR59	203959 04/26/99	Uni-ZAP XR	420	1743	1	1743	135	924	1	23	24	31
411	HTAEI78	203918 04/08/99	Uni-ZAP XR	421	1623	1	1623	632	925	1			4
412	HTDAA78	203918 04/08/99	pSport1	422	825	1	825	151	926	1			20
413	HTEAG62	203959 04/26/99	Uni-ZAP XR	423	2221	57	2221	1017	927	1	20	21	22
414	HTECB02	203959 04/26/99	Uni-ZAP XR	424	1662	106	1662	196	928	1	22	23	56
415	HTECC15	PTA-181 06/07/99	Uni-ZAP XR	425	2055	1	2055	211	929	1	19	20	23
416	HTEDF18	203959 04/26/99	Uni-ZAP XR	426	829	1	829	325	930	1			5
417	HTEDI28	203959 04/26/99	Uni-ZAP XR	427	1247	1	1247	287	931	1	18	19	45
418	HTEDS12	203918 04/08/99	Uni-ZAP XR	428	1587	1	1587	260	932	1	24	25	36
419	HTIED26	203959 04/26/99	Uni-ZAP XR	429	2179	1	2179	261	933	1	19	20	32

Gene No.	cDNA Clone ID	ATCC Deposit No./Z and Date	Vector	NT SEQ ID NO:	NT of Clone Seq.	5' NT of Clone Seq.	3' NT of Clone Seq.	5' NT of AA of Signal Codon	5' NT of AA SEQ ID NO:	First AA Sig Pep	Last AA Sig Pep	First AA of Secreted Portion	Last AA of ORF
420	HTEED26	203959 04/26/99	Uni-ZAP XR	430	2167	1	2159	259	934	1	19	20	32
421	HTEEF26	203959 04/26/99	Uni-ZAP XR	431	1015	45	984	262	935	1			7
422	HTEEF26	203959 04/26/99	Uni-ZAP XR	432	1273	45	984	262	936	1			7
423	HTEEW69	203959 04/26/99	Uni-ZAP XR	433	1282	110	1263	182	937	1	30	31	323
424	HTEGS07	203959 04/26/99	Uni-ZAP XR	434	806	1	806		938	1	20	21	37
425	HTEGS11	PTA-181 06/07/99	Uni-ZAP XR	435	981	1	981		939	1			7
426	HTEHA56	203959 04/26/99	Uni-ZAP XR	436	1402	529	1400		280	940	1	5	88
427	HTEHU59	203959 04/26/99	Uni-ZAP XR	437	1523	1	1504	170	941	1	19	20	34
428	HTEID29	203959 04/26/99	Uni-ZAP XR	438	1324	1	1324	101	942	1			23
429	HTEKM46	PTA-181 06/07/99	Uni-ZAP XR	439	2116	1	2116	171	943	1	24	25	38

Gene No.	cDNA Clone ID	ATCC Deposit No./Z and Date	Vector	NT SEQ ID NO:	5' NT of Clone Seq.	3' NT of Clone Seq.	5' NT of AA of Signal Pep	5' NT of AA of Signal Pep	First AA of Sig Pep	Last AA of Sig Pep	First Secreted Portion	Last of AA of ORF
430	HTEMQ17	203959 04/26/99	Uni-ZAP XR	440	1768	1	1768	446	944	1		12
431	HTENR63	PTA-792 09/27/99	Uni-ZAP XR	441	1591	1	1591	132	945	1	20	56
432	HTGGM44	203959 04/26/99	Uni-ZAP XR	442	3016	1	2761	179	946	1	18	84
433	HTHBZ06	203959 04/26/99	Uni-ZAP XR	443	623	193	619	318	947	1		1
434	HTLAP64	203918 04/08/99	Uni-ZAP XR	444	1092	1	1092	173	948	1	19	20
435	HTLBT80	203959 04/26/99	Uni-ZAP XR	445	2101	817	1881	912	949	1	27	129
436	HTLDA84	203918 04/08/99	Uni-ZAP XR	446	1444	1	1444		950	1		13
437	HTLDN29	203959 04/26/99	Uni-ZAP XR	447	1374	1	1348	175	951	1	23	33
438	HTLDU78	203918 04/08/99	Uni-ZAP XR	448	1318	1	1318	219	952	1		8
439	HTLEC82	203959 04/26/99	Uni-ZAP XR	449	1260	217	1119	530	953	1	34	36
440	HTLEM16	203959 04/26/99	Uni-ZAP XR	450	1915	1158	1755	1220	954	1	27	69

Gene No.	cDNA Clone ID	ATCC Deposit No./Z and Date	Vector	NT SEQ ID NO:	Total NT Seq.	5' NT of Clone Seq.	3' NT of Clone Seq.	5' NT of AA of Signal Pep	First AA of ID NO: Y	Last AA of Sig Pep	First AA of Secreted Portion	Last AA of ORF	
441	HTLEV48	203918 04/08/99	Uni-ZAP XR	451	1070	1	1070	205	955	1	30	31	207
441	HTLEV48	203918 04/08/99	Uni-ZAP XR	514	1065	1	1065	91	1018	1			9
442	HTLFA13	203918 04/08/99	Uni-ZAP XR	452	1160	1	1160		956	1	8	9	31
443	HTLFI73	203979 04/29/99	Uni-ZAP XR	453	1159	1	1159	340	957	1			23
444	HTLGI89	203959 04/26/99	Uni-ZAP XR	454	2377	1205	2377	1802	958	1	16	17	37
445	HTLFI11	203959 04/26/99	Uni-ZAP XR	455	1968	860	1968	933	959	1	33	34	38
446	HTLFI12	203959 04/26/99	Uni-ZAP XR	456	1100	140	1100	642	960	1	19	20	75
447	HTLFI12	203959 04/26/99	Uni-ZAP XR	457	1081	142	1033	644	961	1	19	20	75
448	HTLFI12	203959 04/26/99	Uni-ZAP XR	458	1044	142	1033	644	962	1	19	20	75
449	HTLFI12	203959 04/26/99	Uni-ZAP XR	459	1081	142	1033	644	963	1	19	20	75
450	HTLFI12	203959 04/26/99	Uni-ZAP XR	460	1081	142	1033	644	964	1	19	20	75

Gene No.	cDNA Clone ID	ATCC Deposit No./Z and Date	Vector	NT SEQ ID NO:	NT Clone Seq. X	5' NT of Clone Seq.	5' NT of AA of Signal Codon	5' NT of First AA of Signal	AA SEQ NO:	First AA Sig Pep	Last AA Sig Pep	First AA of Secreted Portion	Last AA of ORF
451	HTLFI12	203959 04/26/99	Uni-ZAP XR	461 1081	142 1033	644	644	644	965	1	19	20	75
452	HTNAM63	203918 04/08/99	pBluescript SK-	462 1006	1 1006			193	966	1	15	16	30
453	HTNBK13	203959 04/26/99	pBluescript SK-	463 1160	295 1148	534	534	534	967	1	16	17	21
454	HTOAI50	203959 04/26/99	Uni-ZAP XR	464 1258	1 1258	61	61	61	968	1	17	18	27
455	HTOAM11	203918 04/08/99	Uni-ZAP XR	465 1200	1 1200	89	89	89	969	1	24	25	34
456	HTODH57	203918 04/08/99	Uni-ZAP XR	466 1652	1 1652			228	970	1	18	19	71
457	HTODH83	203918 04/08/99	Uni-ZAP XR	467 1981	1 1981	103	103	103	971	1	21	22	32
458	HTOEVI6	PTA-181 06/07/99	Uni-ZAP XR	468 1640	1 1640	201	201	201	972	1	39	40	118
459	HTOGR38	203959 04/26/99	Uni-ZAP XR	469 776	138 776			314	973	1	23	24	42
460	HTOHO21	203918 04/08/99	Uni-ZAP XR	470 727	1 727			439	974	1	5	6	63

Gene No.	cDNA Clone ID	ATCC Deposit No./Z and Date	Vector	NT SEQ ID NO:	Total NT Seq.	5' NT of Clone Seq.	3' NT of Clone Seq.	5' NT of AA of Signal Codon	5' NT of AA SEQ ID NO:	First AA of Sig Pep	Last AA of Sig Pep	First Secreted Portion	Last AA of ORF
461	HTOHOQ05	PTA-181 06/07/99	Uni-ZAP XR	471	1860	1	1860	198	975	1	19	20	54
462	HTOJL95	203959 04/26/99	Uni-ZAP XR	472	1854	1	1818	134	976	1	26	27	58
463	HTOJL95	203959 04/26/99	Uni-ZAP XR	473	1947	1	1947	221	977	1	26	27	58
464	HTPDUI7	203959 04/26/99	Uni-ZAP XR	474	2078	1	2078	52	978	1	17	18	33
465	HTSF32	203918 04/08/99	pBluescript	475	1257	517	1257	93	979	1			18
466	HTTCB60	PTA-181 06/07/99	Uni-ZAP XR	476	1504	1	1504	84	980	1	17	18	266
467	HTTEE41	203959 04/26/99	Uni-ZAP XR	477	1973	864	1968	1171	981	1			8
468	HTTEZ02	203918 04/08/99	Uni-ZAP XR	478	1880	1	1880	250	982	1	21	22	28
469	HTWEH94	203918 04/08/99	pSport1	479	1361	1	1361	66	983	1	43	44	81
470	HTXBD09	203959 04/26/99	Uni-ZAP XR	480	1921	22	1900	350	984	1			12

Gene No.	cDNA Clone ID	ATCC Deposit No./Z and Date	Vector	NT SEQ ID NO:	NT Total Seq.	5' NT of Clone Seq.	3' NT of Clone Seq.	5' NT of AA of Signal Pep	5' NT of AA SEQ ID NO:	First AA of Sig Pep	Last AA of Sig Pep	First Secreted Portion	Last of AA of ORF
471	HTXDB22	PTA-181 06/07/99	Uni-ZAP XR	481	1211	1	1135	229	985	1	10	11	22
472	HTXDC38	203959 04/26/99	Uni-ZAP XR	482	820	106	806	359	986	1			18
473	HTXDC77	203979 04/29/99	Uni-ZAP XR	483	1441	159	1400	65	987	1	18	19	151
474	HTXDD61	PTA-181 06/07/99	Uni-ZAP XR	484	1140	1	1140	49	988	1	17	18	132
475	HTXDG92	203959 04/26/99	Uni-ZAP XR	485	1162	1	1162	216	989	1	24	25	66
476	HTXET11	203918 04/08/99	Uni-ZAP XR	486	989	1	989	178	990	1	22	23	29
477	HTXFA72	PTA-181 06/07/99	Uni-ZAP XR	487	1861	1	1861	192	991	1	17	18	29
478	HTXIY08	203959 04/26/99	Uni-ZAP XR	488	1187	12	1187	108	992	1			16
479	HTXKF95	203959 04/26/99	Uni-ZAP XR	489	884	79	875	330	993	1	28	29	78
480	HTXMMZ07	203959 04/26/99	Uni-ZAP XR	490	1652	189	1640	319	994	1	22	23	37

Gene No.	cDNA Clone ID	ATCC Deposit No./Z and Date	Vector	NT SEQ ID NO:	NT Total Seq.	5' NT of Clone Seq.	3' NT of Clone Seq.	5' NT of AA of Signal Codon	5' NT of AA SEQ ID NO:	First AA of Sig Pep	Last AA of Sig Pep	First Secreted Portion	Last of AA of ORF
481	HUFCL31	203959 04/26/99	pSport1	491	1460	1	1460	287	995	1			26
482	HUKBT67	203959 04/26/99	Lambda ZAP II	492	2069	74	2052	273	996	1	21	22	39
483	HUKDF20	203918 04/08/99	Lambda ZAP II	493	1105	1	1105	214	997	1	20	21	33
484	HUKDY82	203918 04/08/99	Lambda ZAP II	494	1435	1	1435	187	998	1	17	18	32
485	HUSCJ14	PTA-1838 05/09/00	Lambda ZAP II	495	3342	1	3342	74	999	1	30	31	196
486	HUSGL67	203918 04/08/99	pSport1	496	1008	65	1008	350	1000	1	21	22	47
487	HUSGU40	203959 04/26/99	pSport1	497	1054	1	1054	500	1001	1	20	21	46
488	HUSIR18	203959 04/26/99	pSport1	498	876	1	876	83	1002	1	16	17	22
489	HUVDI48	203918 04/08/99	Uni-ZAP XR	499	1827	1	1827	196	1003	1			5
490	HWAAL12	203959 04/26/99	pCMVSPORT 3.0	500	3303	1	1838	223	1004	1			29
491	HWBBQ70	203959 04/26/99	pCMVSPORT 3.0	501	1948	1	1948	222	1005	1	21	22	43

TABLE 1B

Gene No:	Clone ID	Contig ID:	SEQ ID NO: X	ORF (From-To)	AA SEQ ID NO: Y	Predicted Epitopes	Tissue Distribution Library code: count (see Table 4 for Library Codes)	Cytologic Band	OMIM Disease Reference(s):
1	H6BSF56	762968	11	83 - 308	515	Asn-131 to Met-140.	AR089: 53, AR060: 29 L0599: 4, L0439: 3, L0777: 3, H0253: 2, H0520: 2, L0754: 2, L0745: 2, L0759: 2, H0556: 1, H0657: 1, S0116: 1, H0450: 1, S0418: 1, S0046: 1, S0222: 1, H0492: 1, S0049: 1, H0123: 1, H0050: 1, H0051: 1, H0615: 1, S0036: 1, H0494: 1, L0805: 1, L0776: 1, S0126: 1, H0435: 1, H0670: 1, S0028: 1, L0747: 1, S0026: 1 and H0542: 1.		
2	H6EDM64	841331	12	1448 - 1468	516		AR060: 22, AR089: 16 H0333: 6, H0556: 5, H0255: 5, H0547: 5, H0618: 4, H0581: 4, H0553: 4, H0135: 4, L0783: 4, S0358: 3, S0222: 3, H0318: 3, H0052: 3, H0617: 3, L0769: 3, H0521: 3, H0555: 3, H0436: 3, H0423: 3, H0341: 2, H0402: 2, H0619: 2, H0549: 2, H0592: 2, H0253: 2, S0474: 2, H0620: 2, H0181: 2, H0059: 2, H0561: 2, L0761: 2, L0764: 2, L0809: 2, H0520: 2, H0682: 2, S0330: 2, H0522: 2.		

4	HACAB68	584773	14	135 - 371	518	Leu-6 to Ser-12.	2, H0618; 2, H0050; 2, L0769; 2, L0766; 2, L0663; 2, H0521; 2, L0743; 2, L0748; 2, H0685; 1, H0295; 1, H0650; 1, H0657; 1, H0255; 1, S0418; 1, S0358; 1, S0376; 1, H0580; 1, S0045; 1, H0550; 1, H0610; 1, H0333; 1, H0069; 1, H0635; 1, S0010; 1, H0581; 1, H0546; 1, H0086; 1, H0009; 1, H0081; 1, T0010; 1, H0059; 1, H0100; 1, H0429; 1, H0494; 1, H0633; 1, L0770; 1, L0372; 1, L0800; 1, L0644; 1, L0775; 1, L0806; 1, L0657; 1, L0636; 1, L0787; 1, L0666; 1, L0665; 1, H0519; 1, S0152; 1, H0555; 1, L0749; 1, L0755; 1, L0758; 1, L0592; 1, S0192; 1, H0422; 1 and H0506; 1, L0748; 4, H0457; 3 and S6022; 1,		
5	HACB156	847112	15	250 - 327	519	Arg-14 to Ile-24.	AR251; 7, AR310; 6, AR265; 6, AR053; 6, AR060; 6, AR055; 5, AR312; 5, AR309; 5, AR273; 5, AR061; 5, AR206; 5, AR194; 5, AR186; 5, AR213; 4, AR052; 4, AR089; 4, AR253; 4, AR248; 4, AR205; 4, AR033; 3, AR243; 3, AR096; 3, AR039; 3, AR246; 3, AR104; 3, AR202; 3,		

6	HACBS22	847113	16	217 - 342	520	Cys-2 to Leu-8.	AR263: 3, AR204: 2, AR244: 1, AR249: 1 H0661: 1, S0045: 1, H0550: 1, S0280: 1, S0010: 1, H0028: 1, L0764: 1, L0803: 1, L0665: 1, S0053: 1, H0670: 1, L0748: 1, L0731: 1 and L0581: 1. H0552: 6, S0002: 5, H0580: 3, S0051: 3, L0766: 3, L0439: 3, L0777: 3, L0361: 3, S0046: 2, H0619: 2, H0550: 2, S0280: 2, H0039: 2, S0142: 2, L0794: 2, L0775: 2, L0748: 2, L0734: 2, L0747: 2, L0758: 2, L0596: 2, H0170: 1, H0265: 1, H0556: 1, S0040: 1, H0661: 1, H0663: 1, S0420: 1, S0356: 1, S0354: 1, H0637: 1, S0222: 1, H0431: 1, H0586: 1, H0492: 1, H0486: 1, H0042: 1, H0253: 1, S0474: 1, H0545: 1, H0014: 1, H0622: 1, T0023: 1, H0033: 1, H0213: 1, H0135: 1, H0038: 1, H0063: 1, S0038: 1, T0042: 1, H0560: 1, H0561: 1, S0372: 1, S0450: 1, S0344: 1, S0426: 1, L0762: 1, L0770: 1, L0769: 1, L0662: 1, L0375: 1, L0665: 1, L0438: 1, S0126: 1, H0689: 1, H0539: 1, H0521: 1, S0174: 1, L0742: 1, L0751: 1, L0749: 1, L0779: 1, L0757: 1, S0031: 1, L0581:
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7	HADDE71	839187	17	250 - 666	521	Pro-9 to Thr-14, Ser-37 to Trp-44, Gly-79 to Thr-85, Arg-88 to Lys-139.	1, H0668: 1 and H0506: 1; AR089: 25, AR060: 15 L0759: 6, L0769: 5, H0052: 4, L0770: 4, L0809: 4, L0439: 4, L0752: 4, S0408: 3, L0751: 3, L0747: 3, L0779: 3, S0007: 2, H0351: 2, H0333: 2, H0427: 2, H0581: 2, L0662: 2, L0649: 2, L0774: 2, L0806: 2, L0666: 2, L0741: 2, L0777: 2, H0543: 2, H0739: 1, H0171: 1, H0254: 1, H0125: 1, H0675: 1, H0722: 1, H0733: 1, S0140: 1, H0261: 1, H0592: 1, H0586: 1, H0587: 1, H0257: 1, H0486: 1, L0022: 1, H0042: 1, H0150: 1, H0086: 1, H0123: 1, T0010: 1, H0266: 1, H0673: 1, S0364: 1, H0063: 1, H0087: 1, H0494: 1, H0560: 1, H0538: 1, L0761: 1, L0772: 1, L0646: 1, L0765: 1, L0766: 1, L0805: 1, L0776: 1, L0807: 1, L0657: 1, L0783: 1, H0547: 1, S0126: 1, H0435: 1, S0330: 1, H0521: 1, H0522: 1, L0743: 1, L0749: 1, L0750: 1, L0786: 1, L0753: 1, L0755: 1, L0731: 1, L0758: 1, S0436: 1, S0011: 1 and S0192: 1.
8	HADDJ13	827273	18	347 - 439	522		H0427: 1
9	HADMB15	847116	19	238 - 300	523		AR089: 12, AR060: 7 H0124: 28, H0013: 8, H0547: 4, H0144: 3, L0595:

							3, H0390: 2, S0346: 2, H0012: 2, L0565: 2, L0777: 2, S0001: 1, S0282: 1, S0442: 1, H0619: 1, S0222: 1, H0333: 1, T0039: 1, S0010: 1, S0049: 1, H0052: 1, H0546: 1, H0178: 1, H0566: 1, H0081: 1, H0024: 1, S0388: 1, S0051: 1, H0292: 1, H0135: 1, H0591: 1, H0087: 1, H0551: 1, S0038: 1, H0100: 1, L0770: 1, L0521: 1, L0651: 1, L0543: 1, L0664: 1, H0520: 1, S0012: 1, S0028: 1, L0439: 1, L0759: 1, H0445: 1, L0592: 1, L0599: 1 and H0352: 1.		
10	HAGBQ12	722205	20	171 - 236	524		AR060: 7, AR089: 4, L0754: 4, L0777: 2, L0755: 2, S0010: 1, H0049: 1, L0163: 1, L0771: 1, L0775: 1 and L0776: 1.		
11	HAGDW20	637489	21	238 - 291	525		AR089: 16, AR060: 11, S0010: 1 and H0616: 1.		
12	HACG10	823543	22	146 - 313	526		AR089: 8, AR060: 6, L0766: 13, L0663: 5, L0439: 3, L0747: 3, L0750: 3, H0580: 2, H0486: 2, H0013: 2, S0250: 2, L0662: 2, L0768: 2, L0527: 2, L0647: 2, L0792: 2, L0779: 2, L0596: 2, L0592: 2, L0362: 2, H0543: 2, H0556: 1, S0114: 1, H0661: 1, H0402: 1, S0420: 1, H0676: 1, H0438: 1, H0600: 1, H0497: 1, S0010: 1, L0471: 1.		

							1, H0083: 1, H0267: 1, H0316: 1, H0090: 1, H0591: 1, H0038: 1, H0040: 1, L0060: 1, L0667: 1, L0373: 1, L0803: 1, L0650: 1, L0774: 1, L0775: 1, L0555: 1, L0659: 1, L0526: 1, L0529: 1, L0791: 1, L0666: 1, L0664: 1, L0665: 1, H0520: 1, H0547: 1, H0684: 1, H0521: 1, H0436: 1, H0540: 1, L0740: 1, L0756: 1, L0755: 1, L0738: 1, H0445: 1, H0542: 1 and H0423: 1.				
13	HAGEQ79	828055	23	515 - 550	527		AR089: 15, AR060: 14 H0585: 12, L0439: 8, H0052: 7, H0251: 7, L0805: 7, L0776: 6, S0010: 5, L0803: 5, L0745: 5, L0809: 4, L0438: 4, L0779: 4, L0747: 3, S0222: 2, H0438: 2, T0010: 2, S6028: 2, L0455: 2, L0794: 2, L0790: 2, S0028: 2, L0742: 2, L0753: 2, S0436: 2, L0592: 2, H0650: 1, S0001: 1, S0420: 1, S0408: 1, H0013: 1, H0156: 1, T0082: 1, S0049: 1, H0263: 1, H0178: 1, H0050: 1, H0051: 1, S0051: 1, H0375: 1, H0598: 1, S0036: 1, H0038: 1, H0040: 1, S0386: 1, S0039: 1, L0351: 1, L0370: 1, L0770: 1, L0766: 1, L0774: 1, L0783: 1, L0788: 1, L0791: 1, L0665: 1, L0352:				

14	HAGHS7	847120	24	241 - 405	528	Met-1 to Lys-6,	1, S0380: 1, L0740: 1, L0777: 1, L0755: 1 and L0759: 1, AR060: 5, AR089: 3 L0438: 7, L0439: 6, L0747: 4, L0005: 3, S0360: 3, H0547: 3, S0222: 2, L0105: 2, S0002: 2, S0426: 2, L0664: L0794: 2, L0659: 2, L0664: 2, L0754: 2, L0758: 2, H0506: 2, H0170: 1, H0171: 1, H0656: 1, S0212: 1, H0580: 1, H0455: 1, H0069: 1, H0098: 1, S0010: 1, H0581: 1, H0263: 1, H0009: 1, L0471: 1, H0099: 1, S0003: 1, H0039: 1, S0036: 1, H0090: 1, H0591: 1, S0422: 1, L0763: 1, L0638: 1, L0372: 1, L0646: 1, L0773: 1, L0662: 1, L0766: 1, L0649: 1, L0803: 1, L0804: 1, L0651: 1, L0784: 1, L0776: 1, L0647: 1, S0052: 1, H0144: 1, H0682: 1, H0659: 1, H0521: 1, H0555: 1, L0742: 1, L0750: 1, L0756: 1, H0445: 1, S0434: 1 and S0452: 1, AR060: 9, AR089: 7 H0521: 5, L0777: 5, S0376: 4, H0156: 3, H0519: 3, H0436: 3, L0731: 3, H0656: 2, H0580: 2, H0036: 2, L0471: 2, H0090: 2, H0040: 2, H0551: 2, H0494: 2, S0438: 2, H0529: 2, L0809: 2, H0144: 2, S0374: 2,		
15	HAGHS7	773286	25	900 - 932	529				

16	HAHEA15	847013	26	196 - 237	530					H0593: 2, H0170: 1, H0583: 1, H0650: 1, S0418: 1, S0338: 1, S0045: 1, H0619: 1, H0586: 1, H0643: 1, H0632: 1, H0486: 1, S0280: 1, H0590: 1, S0010: 1, S0346: 1, H0581: 1, H0231: 1, H0046: 1, H0123: 1, S028: 1, H0687: 1, S0003: 1, S0214: 1, H0252: 1, H0615: 1, H0212: 1, L0455: 1, S0366: 1, H0163: 1, H0038: 1, H0634: 1, T0067: 1, L0475: 1, H0560: 1, H0561: 1, S0464: 1, H0646: 1, S0426: 1, H0026: 1, L0790: 1, H0520: 1, H0435: 1, S0328: 1, H0539: 1, H0704: 1, S0027: 1, L0439: 1, L0750: 1, L0756: 1, L0757: 1, L0581: 1, L0595: 1, H0543: 1 and H0423: 1, AR194: 23, AR205: 21, AR206: 20, AR039: 18, AR246: 17, AR202: 17, AR204: 15, AR244: 14, AR243: 14, AR052: 13, AR265: 13, AR198: 12, AR310: 12, AR271: 12, AR053: 11, AR263: 11, AR033: 10, AR312: 10, AR273: 10, AR251: 10, AR186: 10, AR213: 10, AR089: 10, AR104: 9, AR309: 9, AR060: 9, AR055: 8, AR061: 7, AR249: 6, AR096: 6, AR253: 5, AR248: 3
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17	HAJAA47	534670	27	192 - 308	531	Leu-33 to Asp-38.	L0766: 3, H0599: 2; L0750: 2, L0753: 2, L0775: 1, L0794: 1, L0755: 1 and L0759: 1. H0560: 1, H0561: 1 and H0542: 1.		
18	HAIAY92	845601	28	12 - 296	532	Lys-89 to Glu-94.	AR060: 184, AR089: 98 H0561: 1 and L0758: 1.		
19	HAIJBV67	866415	29	605 - 1684	533	Arg-24 to Trp-44, Leu-87 to Ser-93, Arg-119 to Trp-125, Pro-206 to Lys-211, Glu-280 to Trp-286.	AR089: 8, AR248: 7; AR309: 7, AR265: 6; AR249: 6, AR253: 6; AR202: 6, AR312: 6; AR060: 5, AR104: 5; AR243: 4, AR053: 4; AR213: 4, AR062: 4; AR033: 3, AR310: 3; AR039: 3, AR096: 3; AR246: 3, AR205: 3; AR271: 3, AR263: 3; AR251: 3, AR104: 2; AR273: 2, AR204: 2; AR055: 1, AR186: 1; AR061: 1 L0754: 9, S0444: 6, S0442: 5, S0358: 5, H0622: 5, H0624: 4, H0040: 4, L0659: 4, H0144: 4, H0521: 4, H0171: 3, H0046: 3, H0658: 3, H0553: 3, H0436: 3; L0758: 3, S0434: 3, H0543: 3, S0418: 2, S0360: 2, S0222: 2, H0013: 2, H0156: 2, H0575: 2, H0615: 2; H0674: 2, H0616: 2, H0551: 2, H0412: 2, H0623: 2; S0440: 2, H0647: 2, S0422: 2, H0529: 2, L0666: 2, S0374: 2, S0380: 2, S0146:		

						2, L0740: 2, L0731: 2, L0759: 2, S0436: 2, L0362: 2, H0536: 1, S0114: 1, T0049: 1, L0002: 1, S0282: 1, S0356: 1, S0354: 1, S0408: 1, S0410: 1, H0637: 1, H0722: 1, S0046: 1, S0132: 1, S0300: 1, L0717: 1, H0411: 1, H0431: 1, H0586: 1, H0587: 1, H0036: 1, H0004: 1, S0010: 1, H0318: 1, H0581: 1, H0251: 1, H0596: 1, L0471: 1, H0024: 1, H0014: 1, H0375: 1, H0266: 1, S0003: 1, S0214: 1, H0688: 1, T0023: 1, H0553: 1, L0055: 1, H0032: 1, S0036: 1, H0090: 1, H0591: 1, H0038: 1, T0067: 1, H0477: 1, H0488: 1, H0059: 1, H0561: 1, L0369: 1, L0662: 1, L0766: 1, L0388: 1, L0774: 1, L0775: 1, L0606: 1, L0526: 1, L0809: 1, L0665: 1, H0519: 1, S0126: 1, H0683: 1, H0684: 1, H0659: 1, H0672: 1, H0710: 1, H0522: 1, S014: 1, S0028: 1, L0752: 1, H0595: 1, S0394: 1, L0596: 1, L0589: 1, L0485: 1, L0595: 1, H0667: 1, S0242: 1, S0194: 1, H0423: 1, H0422: 1, S0384: 1, H0506: 1 and H0352: 1.				
20	HAJCH70	827275	30	284 - 400	534				H0561: 1	
21	HAOAG15	852204	31	8 - 3511	535	Asp-26 to Leu-32, Trp-62 to Asp-72,			AR206: 3, AR263: 3, AR207: 3, AR312: 2,	

						Glu-95 to His-101, Thr-158 to Thr-164, Phe-222 to Glu-227, Asn-234 to Thr-245, Gly-256 to Glu-266, Gly-277 to Glu-283, Arg-310 to Ser-317, Ser-327 to Phe-333, Ser-360 to Ser-366.			AR053: 2, AR254: 2, AR203: 1, AR089: 1, AR033: 1, AR096: 1, L0759: 3, S0314: 2, L0744: 2, L0756: 2, L0755: 2, S0046: 1, H0391: 1, H0052: 1, H0050: 1, S0318: 1, S0338: 1, S0312: 1, L0766: 1 and H0144: 1.		
22	HAQA192	688037	32	250 - 321	536				AR089: 43, AR060: 31 H0617: 5, H0606: 2, L0744: 2, L0779: 2, H0295: 1, H0100: 1, S0440: 1, H0026: 1, L0762: 1, L0504: 1, L0769: 1, L0764: 1, L0662: 1, L0649: 1, L0804: 1, L0787: 1, L0666: 1, L0663: 1, H0520: 1, L0748: 1, L0751: 1, L0752: 1 and S0436: 1.		
23	HAQE11	633730	33	262 - 273	537				AR060: 7, AR089: 3 H0295: 5		
24	HATB194	839468	34	18 - 224	538		Lys-42 to Asp-54.		AR060: 5, AR089: 3 L0758: 9, L0769: 4, H0556: 3, L0756: 3, H0486: 2, H0156: 2, H0040: 2, H0529: 2, L0766: 2, L0803: 2, L0639: 2, L0809: 2, L0565: 2, H0539: 2, L0748: 2, L0754: 2, L0777: 2, H0595: 2, L0595: 2, L0361: 2, S0114: 1, H0402: 1, S0358: 1, H0580: 1, S0222: 1, H0587: 1, H0497: 1, H0013: 1, H0427: 1, H0581: 1, H0251: 1, H0046: 1, H0009: 1, H0320: 1, H0594: 1, H0266: 1, H0031: 1.		

							L0055: 1, H0376: 1, H0634: 1, S0038: 1, H0100: 1, L0667: 1, L0771: 1, L0804: 1, L0776: 1, L0547: 1, L0790: 1, L0791: 1, L0793: 1, L0665: 1, H0144: 1, H0519: 1, S0126: 1, H0682: 1, H0659: 1, H0521: 1, S0404: 1, L0740: 1, L0747: 1, L0759: 1, S0436: 1 and L0591: 1.		
25	HATCB45	631172	35	268 - 396	539		L0749: 3, H0156: 2, H0341: 1 and L0754: 1, AR060: 3, AR089: 1, H0156: 1 and H0038: 1.		
26	HATCD80	826098	36	296 - 409	540		AR089: 17, AR060: 10 S6026: 1, H0156: 1 and S0426: 1.		
27	HATCI03	580805	37	271 - 324	541	Lys-8 to Trp-13.	AR060: 6, AR089: 4, L0439: 11, L0740: 11, H0046: 10, H0556: 8, H0052: 7, L0766: 7, S0222: 6, H0617: 6, S0049: 5, H0620: 5, H0144: 5, L0741: 5, L0747: 5, L0731: 5, S0278: 4, L0163: 4, S0002: 4, L0438: 4, L0742: 4, L0743: 4, L0748: 4, H0657: 3, H0599: 3, H0618: 3, S0010: 3, H0050: 3, S0051: 3, S6028: 3, H0266: 3, H0551: 3, H0494: 3, S0144: 3, H0529: 3, L0804: 3, L0663: 3, S0330: 3, L0751: 3, L0754: 3, L0752: 3, L0759: 3, H0656: 2, H0333: 2, H0486: 2, H0042: 2, H0457: 2, H0041: 2, T0010:		
28	HATEH20	836056	38	93 - 221	542	Val-23 to Glu-28.			

[illegible]

2, S0003: 2, T0006: 2, S0364: 2, H0124: 2, S0366: 2, H0135: 2, L0775: 2, L0809: 2, L0789: 2, H0660: 2, L0753: 2, L0757: 2, L0758: 2, L0485: 2, L0599: 2, L0601: 2, H0265: 1, S0040: 1, H0650: 1, H0341: 1, S0212: 1, S0282: 1, H0663: 1, H0638: 1, S0418: 1, S0420: 1, S0360: 1, S0408: 1, L0149: 1, H0208: 1, S0132: 1, H0370: 1, L0623: 1, H0013: 1, H0427: 1, S0280: 1, H0156: 1, H0097: 1, H0575: 1, H0036: 1, H0590: 1, S0346: 1, H0318: 1, H0196: 1, H0596: 1, H0597: 1, H0231: 1, H0009: 1, N0006: 1, L0471: 1, H0012: 1, H0024: 1, H0373: 1, H0051: 1, H0083: 1, H0292: 1, H0428: 1, H0604: 1, H0553: 1, H0181: 1, H0169: 1, H0163: 1, H0090: 1, T0067: 1, H0264: 1, S0038: 1, S0386: 1, S0112: 1, L0564: 1, H0561: 1, S0142: 1, S0344: 1, L0770: 1, L0769: 1, L0637: 1, L0761: 1, L0372: 1, L0374: 1, L0521: 1, L0626: 1, L0533: 1, L0803: 1, L0376: 1, L0806: 1, L0805: 1, L0655: 1, L0783: 1, L0529: 1, L0666: 1, S0374: 1, H0520: 1, H0547: 1, H0519: 1, H0658: 1, S0380:
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29	HBACD86	838799	39	521 - 580	543			AR089: 1 L0809: 4, L0766: 3, L0439: 3, H0624: 2, H0411: 2, L0794: 2, L0756: 2, L0731: 2, L0005: 1, H0599: 1, L0471: 1, S0051: 1, T0010: 1, H0266: 1, S0150: 1, L0637: 1, L0765: 1, L0803: 1, L0783: 1, H0144: 1, H0672: 1, S0392: 1, L0748: 1, L0779: 1, L0777: 1 and L0759: 1.		
30	HBCIL35	1300785	40	17 - 391	544			AR089: 8, AR060: 4 H0013: 8, L0805: 5, H0716: 4, S0010: 4, H0052: 4, H0144: 4, H0615: 3, H0547: 3, L0747: 3, H0645: 2, S0049: 2, H0009: 2, L0769: 2, L0776: 2, L0665: 2, H0519: 2, H0658: 2, H0660: 2, L0602: 2, H0555: 2, L0439: 2, L0750: 2, L0597: 2, H0136: 2, H0423: 2, H0624: 1, H0171: 1, H0717: 1, S0402: 1, H0294: 1, S0114: 1, S0116: 1, H0341: 1, S0212: 1, H0483: 1, H0664: 1, S0360: 1, S0046: 1, H0619: 1, H0411: 1, H0369: 1, S0222: 1, H0438: 1, H0486: 1, H0156:		

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34	HBGNC72	892131	44	550 - 780	548	His-49 to His-57.	AR089: 8, AR060: 7 H0617: 5, L0751: 3, L0779: 3, H0618: 2, L0637: 2, L0764: 2, H0543: 2, H0265: 1, H0556: 1, H0585: 1, H0255: 1, H0664: 1, S0442: 1, H0637: 1, S0045: 1, H0485: 1, H0486: 1, H0374: 1, H0052: 1, H0674: 1, H0135: 1, L0770: 1, L0769: 1, L0662: 1, L0794: 1, L0766: 1, L0803: 1, L0805: 1, L0653: 1, L0636: 1, L0783: 1, L0787: 1, L0663: 1, H0520: 1, H0547: 1, H0593: 1, H0521: 1, H0555: 1, H0436: 1, S0028: 1, L0741: 1, L0758: 1, S0276: 1 and H0352: 1.			
35	HBHAA05	603174	45	110 - 286	549		AR089: 34, AR060: 15 S0029: 1			
36	HBHAA81	846465	46	28 - 639	550		AR055: 37, AR033: 9, AR186: 9, AR104: 8, AR202: 7, AR206: 7.			

37	HBIAA59	806303	47	1877 - 2287	551	Arg-34 to Ser-39, Pro-45 to Ile-55.	AR246: 7, AR204: 7, AR194: 5, AR198: 4, AR244: 4, AR251: 4, AR060: 4, AR061: 4, AR052: 4, AR053: 4, AR205: 4, AR309: 4, AR312: 3, AR273: 3, AR310: 3, AR271: 3, AR213: 3, AR096: 3, AR248: 3, AR039: 2, AR089: 2, AR265: 2, H0599: 5, H0619: 2, S0366: 2, S0282: 1, S0029: 1, H0735: 1, H0200: 1, H0373: 1 and S6028: 1, AR089: 13, AR060: 9 L0747: 13, L0757: 12, L0754: 8, L0749: 6, L0740: 5, L0731: 4, H0009: 3, H0051: 3, L0750: 3, L0756: 3, L0777: 3, L0752: 3, S0376: 2, S0360: 2, H0619: 2, H0485: 2, S0010: 2, H0052: 2, H0251: 2, S0022: 2, H0090: 2, H0494: 2, L0662: 2, L0794: 2, L0806: 2, L0776: 2, L0665: 2, H0144: 2, S0390: 2, L0748: 2, L0581: 2, H0265: 1, H0556: 1, H0716: 1, S0402: 1, L0808: 1, S0212: 1, S0001: 1, H0661: 1, S0358: 1, S0444: 1, S0046: 1, S6026: 1, L0717: 1, H0549: 1, S0222: 1, H0438: 1, H0592: 1, H0333: 1, H0632: 1, H0486: 1, H0013: 1, H0042: 1, S0049: 1, H0545:
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38	HBIAC29	831751	48	1036 - 1125	552			1, H0123; 1, H0081; 1, H0050; 1, L0471; 1, H0105; 1, H0012; 1, H0620; 1, S0031; 1, S6028; 1, H0688; 1, H0553; 1, L0455; 1, H0598; 1, H0040; 1, H0412; 1, L0763; 1, L0769; 1, L0638; 1, L0372; 1, L0764; 1, L0771; 1, L0766; 1, L0561; 1, L0498; 1, L0774; 1, L0775; 1, L0375; 1, L0378; 1, L0657; 1, L0659; 1, L0809; 1, L0789; 1, L0663; 1, L0438; 1, H0520; 1, H0518; 1, H0696; 1, S0102; 1, S014; 1, S0028; 1, L0744; 1, L0751; 1, L0780; 1, L0755; 1, L0758; 1, L0759; 1, S0031; 1, S0260; 1, H0506; 1 and H0008; 1, AR089; 36, AR060; 11, L0105; 11, L0745; 5, L0770; 4, L0794; 4, L0777; 4, S0003; 3, L0766; 3, L0806; 3, L0809; 3, L0740; 3, L0751; 3, L0749; 3, S0376; 2, S0360; 2, L0598; 2, L0776; 2, L0666; 2, L0663; 2, S0126; 2, H0659; 2, H0658; 2, S0406; 2, H0436; 2, S014; 2, L0754; 2, L0756; 2, L0604; 2, H0624; 1, H0265; 1, S0116; 1, H0669; 1, H0331; 1, L0586; 1, S0049; 1, H0597; 1, L0471; 1, H0024; 1, S0214; 1, H0169; 1, L0455;
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39	HB/CW51	553630	49	289 - 417	553			AR060: 7, AR089: 4 L0766: 7, H0556: 6, S0002: 2, H0395: 1, S0418: 1, S0049: 1, H0052: 1, H0598: 1, H0591: 1, H0560: 1, L0803: 1, L0655: 1, H0478: 1, L0749: 1, L0758: 1, S0031: 1, H0444: 1 and H0543: 1.		
40	HB/AB02	837309	50	84 - 188	554	Arg-24 to Asp-31.		L0794: 3, H0255: 2, H0318: 2, H0251: 2, L0764: 2, L0628: 2, L0665: 2, H0658: 2, L0361: 2, H0265: 1, H0685: 1, H0657: 1, H0483: 1, S0420: 1, S0358: 1, S0132: 1, S0223: 1, T0082: 1, H0150: 1, H0083: 1, S0214: 1, H0252: 1, H0628: 1, T0041: 1, S0344: 1, H0529: 1, L0520: 1, L0535: 1, L0662: 1, L0387: 1, L0375: 1, L0518: 1, L0666: 1, L0663: 1, H0519: 1, H0670: 1, H0660: 1, L0747: 1, L0777: 1, L0601: 1, S0276: 1, H0423: 1 and H0422: 1.		

41	HB/JAC65	679337	51	137 - 208	555		AR060: 6, AR089: 3 L0743: 20, L0744: 16, L0748: 9, L0747: 8, L0754; 7, H0617: 4, L0750: 4, L0757: 4, H0549: 3, H0014; 3, H0087: 3, L0776: 3, H0624: 2, H0171: 2, S0360; 2, H0013: 2, H0427: 2, H0188: 2, H0031: 2, H0413; 2, S0352: 2, H0646: 2, L0769: 2, L0751: 2, L0755; 2, L0731: 2, L0591: 2, L0603: 2, S0192: 2, H0170; 1, H0661: 1, H0662: 1, S0376: 1, S0045: 1, S0046; 1, H0619: 1, H0411: 1, S0622: 1, S0222: 1, H0392; 1, H0592: 1, H0333: 1, T0039: 1, S0280: 1, H0042; 1, H0618: 1, H0318: 1, S0049: 1, H0309: 1, H0596; 1, H0123: 1, H0510: 1, H0284: 1, H0033: 1, H0424; 1, H0213: 1, H0090: 1, H0059: 1, T0004: 1, H0509; 1, L0765: 1, L0771: 1, L0794: 1, L0775: 1, L0376; 1, L0659: 1, L0365: 1, L0782: 1, L0809: 1, H0144; 1, H0547: 1, H0519: 1, H0651: 1, H0539: 1, S0332; 1, S0454: 1, S0206: 1, S0032: 1, L0779: 1, L0601: 1 and S0194: 1.
42	HB/JBM12	560606	52	47 - 142	556		AR060: 5, AR089: 5 H0318: 1 and L0753: 1, H0038: 16, L0777: 12, L0758: 12, L0779: 11,
43	HB/CR46	815649	53	589 - 2787	557	Met-1 to Ala-8, Phe-42 to Asp-57,	

Tyr-105 to Thr-110, His-121 to Cys-127, Asp-154 to Lys-181, Arg-186 to Pro-210, Ala-233 to Asp-252, Ser-296 to Ser-306, Pro-313 to Ser-320, Gln-331 to Gly-346, Ser-355 to Thr-360, Cys-386 to Phe-395, Ser-400 to Glu-425, Thr-440 to Thr-446, Pro-449 to Cys-466, Glu-470 to Thr-509, Ser-512 to Asp-533, Ala-544 to Arg-550, Arg-562 to Glu-571, Lys-587 to Thr-594, Asp-713 to Glu-733.	L0803: 10, L0766: 7, S0358: 6, L0794: 6, L0775: 6, L0809: 6, H0616: 5, L0776: 5, L0750: 5, L0591: 5, S0408: 4, L0769: 4, L0748: 4, L0439: 4, L0747: 4, L0731: 4, S0282: 3, L0774: 3, L0789: 3, L0666: 3, L0438: 3, L0756: 3, L0780: 3, L0755: 3, L0757: 3, L0759: 3, L0588: 3, H0638: 2, H0036: 2, H0590: 2, H0318: 2, H0581: 2, H0196: 2, H0046: 2, H0154: 2, L0163: 2, H0213: 2, S0036: 2, L0804: 2, L0375: 2, L0655: 2, L0656: 2, L0659: 2, L0783: 2, S0374: 2, S0126: 2, H0659: 2, H0672: 2, S0328: 2, S0152: 2, H0521: 2, S0406: 2, L0605: 2, L0485: 2, L0362: 2, S0026: 2, H0543: 2, H0352: 2, H0170: 1, H0171: 1, H0713: 1, S6024: 1, H0650: 1, H0657: 1, H0656: 1, S0116: 1, H0341: 1, S0442: 1, S0354: 1, S0360: 1, H0580: 1, H0339: 1, S0045: 1, H0619: 1, H0437: 1, S0222: 1, H0333: 1, H0574: 1, L0623: 1, H0486: 1, L0586: 1, L0021: 1, H0599: 1, H0575: 1, H0618: 1, H0253: 1, H0250: 1, H0597: 1, H0544: 1, H0178: 1, H0123: 1, H0050: 1, L0471: 1, H0012: 1, H0620: 1,
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47	HBJFK45	531919	57	430 - 456	561		AR060: 2 H0318: 1 and L0766: 1.			
48	HBJIG20	866159	58	321 - 554	562		AR060: 1184, AR104: 806, AR055: 765, AR061: 752, AR089: 676, AR096: 325, H0594: 11, H0596: 8, S0282: 5, S0260: 5, S0194: 5, H0543: 5, S0278: 2, H0600: 2, H0592: 2, H0598: 2, S0344: 2, H0595: 2, S0356: 1, H0438: 1, H0574: 1, H0599: 1, S0346: 1, H0318: 1, H0597: 1, S0388: 1, H0316: 1, S0390: 1 and H0542: 1.			
49	HBJKD16	853358	59	78 - 173	563		AR213: 43, AR272: 41, AR234: 36, AR205: 36, AR243: 35, AR245: 32, AR312: 32, AR212: 31, AR039: 31, AR311: 27, AR308: 27, AR096: 27, AR053: 23, AR089: 20, AR309: 19, AR253: 18, AR263: 16, AR264: 16, AR204: 16, AR250: 15, AR201: 15, AR207: 14, AR246: 14, AR198: 13.			

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AR271: 12, AR104: 11, AR060: 11, AR197: 11, AR252: 10, AR055: 10, AR061: 10, AR033: 7 L0439: 11, L0766: 9, H0673: 6, L0741: 6, L0747: 6, L0777: 5, L0438: 4, L0758: 4, L0362: 4, S0116: 3, T0010: 3, H0615: 3, H0038: 3, H0616: 3, L0764: 3, L0776: 3, L0748: 3, L0754: 3, L0752: 3, H0445: 3, S0358: 2, S0222: 2, H0574: 2, H0486: 2, S0280: 2, H0156: 2, H0264: 2, H0646: 2, L0761: 2, L0666: 2, S0206: 2, L0750: 2, L0779: 2, L0593: 2, S0242: 2, H0422: 2, H0170: 1, H0222: 1, H0650: 1, H0657: 1, H0661: 1, H0663: 1, H0589: 1, S0418: 1, S0376: 1, S0360: 1, S0408: 1, H0340: 1, H0580: 1, H0393: 1, H0549: 1, H0013: 1, H0069: 1, L0021: 1, S0010: 1, H0318: 1, H0597: 1, H0046: 1, H0439: 1, L0471: 1, H0428: 1, H0644: 1, H0212: 1, H0090: 1, S0386: 1, H0561: 1, S0344: 1, L0763: 1, L0638: 1, L0646: 1, L0521: 1, L0662: 1, L0364: 1, L0774: 1, L0659: 1, L0543: 1, L0792: 1, L0664: 1, L0665: 1, S0428: 1, H0435: 1, H0539: 1, S0378: 1, H0521: 1, H0696:
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							1, L0749; 1, L0753; 1, L0759; 1, S0434; 1, L0588; 1 and L0698; 1.		
50	HBM4BM96	561935	60	170 - 184	564		AR089: 22, AR060: 13 L0766: 2, L0747: 2, H0392: 1, H0574; 1, H0421; 1, H0124; 1, L0776: 1, L0666: 1, S0146; 1, L0744; 1, L0745; 1, L0779; 1, H0543; 1 and H0423; 1.		
51	HBM4BX01	705047	61	363 - 449	565		AR089: 22, AR060: 15 L0748: 5, H0318; 3, H0543; 3, H0484; 1, H0402; 1, S0474; 1, H0421; 1, H0052; 1, H0083; 1, H0266; 1, H0553; 1, H0272; 1, S0440; 1, S0142; 1, S0210; 1, S0002; 1, L0761; 1, L0766; 1, L0792; 1, H0520; 1, H0710; 1, L0747; 1, H0444; 1 and H0595; 1.		
52	HBM4TM11	589515	62	125 - 220	566		AR089: 8, AR060: 7 L0754; 14, L0766: 13, L0740; 7, L0779; 6, L0755; 5, H0591; 4, L0756; 4, S0354; 3, L0663; 3, L0438; 3, L0777; 3, L0752; 3, L0362; 3, H0423; 3, H0624; 2, S0218; 2, S0212; 2, H0638; 2, S0360; 2, S0222; 2, H0014; 2, H0615; 2, H0412; 2, S0422; 2, S0002; 2, L0638; 2, L0764; 2, H0555; 2, L0439; 2, L0745; 2, L0753; 2, H0543; 2, H0170; 1, S0040; 1, S0134; 1, S0116; 1, H0669; 1, H0637; 1, S0046; 1, L0717;		

53	HBMTX26	695704	63	107 - 376	567			1, S6016: 1, H0497: 1, H0333: 1, H0632: 1, H0485: 1, H0486: 1, H0013: 1, H0427: 1, H0156: 1, L0021: 1, H0122: 1, H0318: 1, H0596: 1, H0546: 1, H0046: 1, H0457: 1, H0123: 1, H0375: 1, S6028: 1, H0179: 1, S0250: 1, H0428: 1, H0533: 1, H0644: 1, H0674: 1, H0634: 1, H0063: 1, H0264: 1, H0623: 1, H0561: 1, H0646: 1, H0529: 1, L0761: 1, L0662: 1, L0767: 1, L0649: 1, L0774: 1, L0775: 1, L0375: 1, L0805: 1, L0776: 1, L0658: 1, L0518: 1, L0783: 1, L0809: 1, L0647: 1, L0367: 1, L0789: 1, L0792: 1, L0666: 1, L0664: 1, H0519: 1, H0690: 1, H0670: 1, H0648: 1, S0330: 1, S0378: 1, H0436: 1, S0390: 1, S0028: 1, L0758: 1, L0759: 1, H0668: 1, S0412: 1 and S0424: 1.	
54	HBMTY48	637521	64	660 - 944	568	Glu-35 to Pro-50.		AR089: 32, AR060: 16 S0116: 1 and T0042: 1, AR198: 16, AR039: 14, AR271: 13, AR312: 13, AR186: 12, AR096: 11, AR089: 10, AR204: 10, AR104: 10, AR052: 9, AR213: 9, AR273: 9, AR243: 9, AR053: 8, AR194: 8, AR206: 8, AR060: 7, AR246: 6,	

55	HBMUH74	866160	65	344 - 430	569		AR309: 6, AR263: 6, AR244: 6, AR202: 6, AR205: 5, AR055: 5, AR033: 5, AR061: 5, AR310: 4, AR249: 4, AR265: 3, AR248: 2 S0116: 1, H0591: 1, L07166: 1 and H0690: 1, AR060: 7, AR089: 4 L0754: 3, L0777: 3, L0439: 2, S0116: 1, H0341: 1, H0661: 1, H0038: 1, H0412: 1, L0761: 1, L0667: 1, L0764: 1, L0788: 1, H0435: 1, L0749: 1, L0779: 1 and L0758: 1,		
56	HBMWE61	778066	66	238 - 267	570		AR060: 9, AR089: 7 S0116: 1		
57	HBNA40	834801	67	2497 - 2646	571		AR089: 6, AR060: 6 L0439: 11, H0171: 5, L0754: 5, L0748: 4, H0052: 3, L0662: 3, L0756: 3, L0755: 3, H0422: 3, S0360: 2, L0738: 2, H0032: 2, L0803: 2, L0655: 2, L0789: 2, L0605: 2, H0423: 2, H0638: 1, T0114: 1, H0156: 1, L0021: 1, S0010: 1, H0581: 1, H0046: 1, L0471: 1, H0014: 1, H0356: 1, H0188: 1, H0553: 1, H0591: 1, S0386: 1, T0042: 1, H0625: 1, H0641: 1, S0142: 1, L0598: 1, L0369: 1, L0640: 1, L0751: 1, L0654: 1, L0659: 1, L0783: 1, L0663: 1, L0665: 1, H0144: 1, L0352: 1, H0547: 1,		

58	HIBNBJ76	810332	68	1603 - 1809	572	Arg-59 to Ser-64.	H0648: 1, H0072: 1, H0555: 1, H0436: 1, L0749: 1, L0779: 1, L0731: 1, L0758: 1, L0759: 1, H0445: 1, L0366: 1 and H0668: 1. AR089: 12, AR060: 11 H0052: 18, L0439: 18, L0766: 10, S0222: 8, L0751: 7, L0741: 6, H0188: 5, H0617: 5, L0438: 5, S0360: 4, L0764: 4, L0748: 4, L0740: 4, L0753: 4, H0265: 3, S0040: 3, S0356: 3, H0333: 3, H0013: 3, T0010: 3, H0622: 3, H0040: 3, L0666: 3, H0520: 3, H0547: 3, H0519: 3, L0747: 3, L0750: 3, L0759: 3, S0436: 3, H0556: 2, H0255: 2, H0664: 2, H0458: 2, L0005: 2, H0728: 2, H0549: 2, H0581: 2, H0309: 2, H0009: 2, H0178: 2, H0124: 2, H0135: 2, H0090: 2, L0351: 2, H0494: 2, L0770: 2, L0662: 2, L0803: 2, L0665: 2, H0144: 2, L0565: 2, H0435: 2, H0696: 2, H0134: 2, H0626: 2, L0742: 2, L0754: 2, L0757: 2, S0011: 2, H0295: 1, H0294: 1, H0583: 1, H0341: 1, S0418: 1, S0420: 1, S0442: 1, S0354: 1, S0007: 1, S0476: 1, H0619: 1, H0351: 1, H0441: 1, H0331: 1, H0486: 1, H0427: 1, H0599: 1, H0575: 1, H0618: 1, S0010:
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59	HBQAB79	810542	69	190 - 225	573			1, T0048: 1, S0049: 1, H0263: 1, H0596: 1, H0530: 1, H0046: 1, H0050: 1, H0093: 1, S0388: 1, H0290: 1, H0328: 1, H0615: 1, H0428: 1, T0023: 1, H0030: 1, H0031: 1, H0628: 1, H0181: 1, H0182: 1, H0032: 1, H0673: 1, L0455: 1, S0036: 1, H0038: 1, H0063: 1, H0551: 1, H0264: 1, S0038: 1, S0142: 1, S0344: 1, S0422: 1, L0598: 1, L0763: 1, L0769: 1, L0768: 1, L0376: 1, L0806: 1, L0776: 1, L0629: 1, L0807: 1, L4501: 1, L0663: 1, T0068: 1, H0658: 1, H0672: 1, S0328: 1, S0152: 1, S3014: 1, S0028: 1, L0745: 1, L0756: 1, L0780: 1, S0260: 1, H0445: 1, L0591: 1, L0603: 1, S0196: 1, H0542: 1, H0423: 1, H0422: 1, L0600: 1 and H0352: 1, AR060: 6, AR089: 4 H0229: 1
60	HBQAC57	793814	70	146 - 235	574			H0229: 1 and L0780: 1, AR089: 12, AR060: 11
61	HBSAK32	856387	71	447 - 590	575			L0749: 3, H0620: 2, H0040: 2, L0517: 2, L0790: 2, L0743: 2, L0751: 2, H0170: 1, H0381: 1, S0001: 1, S0282: 1, S0354: 1, H0486: 1, H0013: 1, L0021: 1, H0318: 1, H0012: 1, H0288: 1, H0688: 1, H0622: 1, H0551: 1, S0112: 1,

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62	HBXCM66	639039	72	119 - 169	576			AR089: 33, AR060: 13, H0550: 2, L0523: 2, S0282: 1, S0045: 1, H0549: 1, H0052: 1 and S0038: 1.			
63	HBXCX15	637542	73	72 - 77	577			S0038: 3, H0438: 1, L0363: 1 and S0053: 1.			
64	HCDCY76	837972	74	860 - 967	578		Pro-20 to Phe-25.	AR060: 2, L0770: 2, L0754: 2, L0747: 2, L0777: 2, S0360: 1, S0045: 1, H0486: 1, H0251: 1, H0616: 1, L0803: 1, L0775: 1, L0783: 1, L0787: 1, L0789: 1, L0750: 1, S0194: 1 and S0276: 1.			
65	HCDDL48	839743	75	333 - 455	579		Thr-26 to Tyr-38.	AR060: 4, AR089: 1, H0251: 1.			
66	HCEIG78	761204	76	77 - 841	580		Asp-20 to Thr-26, Leu-30 to Gly-38, Asp-63 to Phe-72, Gly-160 to Trp-175, Gly-189 to Ser-197, Thr-214 to Val-221.	AR060: 9, AR089: 6, L0439: 8, S0356: 2, L0803: 2, L0809: 2, L0666: 2, L0752: 2, H0052: 1, H0194: 1, H0617: 1, H0040: 1, H0100: 1, L0774: 1, L0787: 1 and L0593: 1.			
67	HCE2HS2	847007	77	29 - 100	581			AR060: 6, AR089: 5, H0255: 2, H0052: 1, H0673: 1, H0538: 1, H0444: 1 and H0445: 1.			
68	HCE3B04	831151	78	1588 - 1686	582			AR089: 10, AR060: 7.			

							L0803: 8, L0740: 6, L0756: 6, L0666: 5, S0152: 5, L0752: 5, L0766: 4, H0052: 3, H0038: 3, L0663: 3, H0596: 2, H0628: 2, H0032: 2, L0649: 2, L0659: 2, L0791: 2, L0748: 2, L0758: 2, L0594: 2, H0423: 2, H0171: 1, S0040: 1, H0650: 1, S0116: 1, S0282: 1, S0358: 1, S0360: 1, H0637: 1, H0393: 1, L0717: 1, H0351: 1, T0039: 1, H0013: 1, H0156: 1, H0575: 1, H0590: 1, S0346: 1, H0544: 1, L0471: 1, S0628: 1, S0003: 1, H0328: 1, H0030: 1, H0553: 1, H0598: 1, H0040: 1, H0551: 1, H0264: 1, H0413: 1, H0494: 1, H0561: 1, H0529: 1, L0763: 1, L0770: 1, L0646: 1, L0800: 1, L0642: 1, L0662: 1, L0794: 1, L0804: 1, L0774: 1, L0775: 1, L0375: 1, L0805: 1, L0634: 1, L0809: 1, L0664: 1, S0374: 1, L0352: 1, H0520: 1, H0519: 1, S0126: 1, S0328: 1, H0539: 1, L0750: 1, L0779: 1, H0445: 1, H0707: 1, L0592: 1, L0485: 1, L0595: 1, S0026: 1, H0665: 1, S0192: 1 and H0506: 1.
						Tyr-21 to Lys-30.	H0052: 2 and H0443: 2.
69	HCE5F78	838101	79	566 - 664	583		AR089: 23, AR060: 13
70	HCEDR26	771144	80	177 - 344	584		H0052: 2, H0018: 1, H0264: 1 and L0700: 1.

71	HCEBE79	560609	81	131 - 298	585	Gly-35 to Pro-41	H0052: 1		
72	HCEBEQ25	531784	82	111 - 182	586	Met-14 to Asn-19	AR060: 6, AR089: 5 H0052: 1 and H0144: 1, AR089: 20, AR060: 11 H0341: 49, L0588: 47, H0087: 18, H0333: 13, H0024: 13, H0370: 12, H0318: 12, S0046: 11, L0748: 11, S0134: 10, H0012: 10, L0604: 10, H0255: 9, S0007: 9, H0351: 9, H0170: 8, H0597: 8, H0123: 8, H0063: 8, L0599: 8, L0601: 8, L0603: 8, S0040: 7, H0052: 7, H0068: 7, H0135: 7, H0059: 7, T0041: 7, H0144: 7, S0126: 7, S0218: 6, S0045: 6, S0278: 6, H0040: 6, T0042: 6, S0142: 6, H0134: 6, S3012: 6, S0028: 6, L0591: 6, L0362: 6, H0352: 6, H0368: 5, S0222: 5, H0041: 5, H0081: 5, H0252: 5, H0169: 5, H0090: 5, H0038: 5, H0100: 5, S0027: 5, L0596: 5, L0590: 5, L0361: 5, S0011: 5, H0220: 4, S0114: 4, T0049: 4, H0125: 4, T0039: 4, T0109: 4, H0250: 4, T0082: 4, H0204: 4, H0083: 4, S0044: 4, S3014: 4, S0206: 4, L0747: 4, S0026: 4, H0265: 3, T0002: 3, S6024: 3, S0116: 3, S0132: 3, H0411: 3, H0486: 3, T0060: 3, H0069: 3, H0156: 3, H0036: 3,		
73	HCEBEU18	688041	83	209 - 340	587				

	H0309: 3, H0014: 3, H0266: 3, H0188: 3, S0214: 3, H0604: 3, H0031: 3, H0412: 3, S0032: 3, L0754: 3, L0731: 3, H0343: 3, L0605: 3, L0595: 3, S0194: 3, H0543: 3, H0423: 3, H0171: 2, H0484: 2, T0104: 2, H0331: 2, H0574: 2, H0101: 2, H0013: 2, S0280: 2, H0599: 2, S0010: 2, T0048: 2, S0049: 2, H0251: 2, H0085: 2, H0234: 2, H0545: 2, H0009: 2, S0051: 2, H0292: 2, H0286: 2, H0428: 2, T0023: 2, H0032: 2, H0166: 2, S0036: 2, T0067: 2, H0056: 2, S0038: 2, H0561: 2, S0150: 2, S0144: 2, S0344: 2, H0576: 2, S0037: 2, L0742: 2, L0744: 2, L0439: 2, L0750: 2, L0755: 2, L0757: 2, L0759: 2, S0260: 2, H0445: 2, L0589: 2, H0136: 2, H0542: 2, H0157: 1, H0295: 1, H0294: 1, H0381: 1, S0282: 1, H0483: 1, H0254: 1, H0402: 1, T0008: 1, H0340: 1, H0580: 1, H0339: 1, H0208: 1, H0393: 1, H0369: 1, H0550: 1, H0441: 1, H0431: 1, H0392: 1, H0455: 1, H0404: 1, H0586: 1, H0587: 1, H0497: 1, H0257: 1, H0559: 1, H0256: 1, T0040: 1, T0114: 1, H0108: 1, H0004: 1, H0253: 1,
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74	HCEFZ82	831745	84	215 - 1012	588	Tyr-30 to Gln-35, Asn-114 to Lys-119, Ser-161 to Ala-171, Arg-183 to Gly-189, Pro-205 to Ala-211, Lys-231 to Trp-237, Gly-246 to Lys-265.	H0505: 1, S0182: 1, H0421: 1, H0263: 1, T0110: 1, H0231: 1, H0327: 1, H0046: 1, H0172: 1, H0050: 1, H0011: 1, T0003: 1, H0320: 1, S0388: 1, H0354: 1, H0355: 1, H0510: 1, H0099: 1, H0271: 1, H0416: 1, S0003: 1, H0039: 1, T0006: 1, H0213: 1, H0181: 1, H0383: 1, H0124: 1, S0366: 1, H0163: 1, H0551: 1, H0155: 1, H0487: 1, S0112: 1, H0280: 1, H0494: 1, S0016: 1, H0560: 1, H0366: 1, H0509: 1, H0132: 1, H0130: 1, S0210: 1, S0002: 1, L0598: 1, H0026: 1, L0438: 1, H0521: 1, H0214: 1, H0187: 1, H0436: 1, H0444: 1, L0581: 1, L0608: 1, L0594: 1, H0216: 1, S0276: 1, H0506: 1 and L0600: 1.		
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75	HCEGX05	827060	85	237 - 284	589	Pro-4 to Phe-11.	AR089: 11, AR060: 6 L0766: 11, L0748: 5, L0757: 4, L0662: 3, H0587: 2, L0041: 2, H0039: 2, L0659: 2, L0438: 2, H0672: 2, H0521: 2, L0750: 2, L0738: 2, L0596: 2, L0589: 2, L0605: 2, H0265: 1, H0341: 1, S0222: 1, H0600: 1, L0623: 1, H0069: 1, H0052: 1, H0569: 1, S0388: 1, T0010: 1, L0055: 1, L0456: 1, H0560: 1, H0641: 1, S0426: 1, L0770: 1, L0769: 1, L5575: 1, L0794: 1, L0776: 1, L0783: 1, L0382: 1, L0666: 1, L0663: 1, S0052: 1, S0216: 1, H0702: 1, H0670: 1, H0539: 1, H0522: 1, S0406: 1, S0390: 1, L0743: 1, L0744: 1, L0439: 1, L0740: 1, L0747: 1, L0779: 1, L0777: 1, H0445: 1, H0542: 1, H0423: 1 and H0422: 1.		
76	HCELN88	610000	86	101 - 178	590		L0748: 9, L0770: 6, L0769: 6, L0776: 6, H0424: 5, L0754: 5, L0766: 4, L0761:		

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77	HCFLT90	788578	87	527 - 532	591		

78	HCHAB84	834326	88	304 - 747	592	Asn-47 to Leu-52, Tyr-134 to Tyr-143.	2, L0740: 2, L0746: 2, L0755: 2, H0136: 2, H0423: 2, H0295: 1, H0657: 1, H0459: 1, S0360: 1, S0132: 1, S0300: 1, H0587: 1, H0013: 1, L0021: 1, H0575: 1, S0010: 1, H0530: 1, H0545: 1, H0594: 1, H0292: 1, H0328: 1, H0553: 1, L0143: 1, H0068: 1, S0036: 1, H0059: 1, H0561: 1, H0641: 1, H0633: 1, S0344: 1, L0772: 1, L0764: 1, L0662: 1, L0766: 1, L0776: 1, L0527: 1, L0659: 1, L0663: 1, L0438: 1, H0520: 1, S0126: 1, H0689: 1, H0539: 1, S0027: 1, L0751: 1, L0750: 1, L0752: 1, L0758: 1, S0434: 1, L0592: 1 and S0026: 1.		
79	HCMXSX51	788643	89	529 - 781	593	Leu-57 to Glu-66.	AR089: 20, AR060: 8 S0354: 9, S0358: 3, H0494: 3, H0519: 2, H0521: 2, L0754: 2, H0170: 1, S0040: 1, S0114: 1, H0484: 1, H0483: 1, H0255: 1, S0376: 1, S0046: 1, H0619: 1, H0549: 1, H0042: 1, S0474: 1, H0581: 1, H0052: 1, H0083: 1, L0773: 1, L0517: 1, L0383: 1, S0374: 1, S0152: 1, S0314: 1, L0751: 1, L0759: 1, H0543: 1 and H0422: 1.		

80	HCNCO11	775086	90	101 - 145	594				H0618: 3, L0749: 3, H0619: 2, H0393: 2, H0599: 2, H0083: 2, H0124: 2, H0623: 2, H0100: 2, L0770: 2, S0027: 2, L0743: 2, L0746: 2, L0777: 2, L0758: 2, L0603: 2, S0420: 1, S0358: 1, H0261: 1, H0392: 1, H0013: 1, H0250: 1, H0196: 1, H0545: 1, H0046: 1, H0123: 1, H0620: 1, S0051: 1, S0250: 1, H0617: 1, S0036: 1, H0135: 1, H0634: 1, H0087: 1, H0269: 1, H0509: 1, H0646: 1, S0426: 1, L0763: 1, L0769: 1, L0662: 1, L0363: 1, L0767: 1, L0768: 1, L0650: 1, L0375: 1, L0806: 1, L0776: 1, L0657: 1, L0787: 1, L0664: 1, H0520: 1, H0670: 1, H0704: 1, S0406: 1, H0436: 1, L0747: 1, L0608: 1, L0595: 1 and H0423: 1, AR060: 2 H0597: 1
81	HCNSD29	862314	91	1145 - 1240	595				AR252: 128, AR253: 67, AR245: 63, AR272: 55, AR308: 49, AR246: 47, AR263: 46, AR212: 40, AR053: 37, AR243: 35, AR312: 34, AR254: 33, AR205: 33, AR309: 32, AR264: 31, AR250: 31, AR197: 31, AR271: 29, AR311: 26, AR201: 25, AR198: 25, AR104: 19, AR096: 18, AR213: 17,

							AR039: 15, AR204: 14, AR033: 13, AR207: 12, AR089: 12, AR060: 8, AR055: 6, AR061: 3, H0202: 2, L0648: 2, L0768: 2, L0766: 2, L0748: 2, L0759: 2, L0588: 2, H0125: 1, S0468: 1, H0497: 1, H0486: 1, H0231: 1, H0266: 1, H0641: 1, L0638: 1, L0644: 1, L5572: 1, L0662: 1, L0650: 1, L0807: 1, L0657: 1, L0663: 1, L0665: 1, H0519: 1, H0478: 1, S0026: 1 and L0718: 1.		
82	HCQBHT2	637548	92	31 - 174	596		AR060: 2, AR089: 2, L0520: 4, L0754: 2, H0263: 1, H0722: 1 and H0555: 1.		
83	HCQCC96	845066	93	782 - 919	597		AR252: 46, AR197: 44, AR204: 38, AR253: 34, AR254: 31, AR250: 28, AR198: 28, AR243: 26, AR061: 23, AR201: 23, AR055: 22, AR039: 21, AR104: 19, AR245: 18, AR271: 18, AR033: 16, AR207: 15, AR053: 15, AR272: 14, AR205: 14, AR246: 14, AR089: 11, AR096: 10, AR308: 10, AR060: 10, AR212: 10, AR213: 10, AR309: 8, AR312: 8, AR264: 7, AR263: 5, AR311: 5, L0766: 8, S0360: 5, L0748: 5, L0756: 5, L0666: 4, L0665: 4, L0770: 3, L0752: 1.		

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84	HCQCJ56	832157	94	728 - 733	598		
85	HCQCM24	843070	95	815 - 931	599		

									L0803: 10, L0774: 6, L0752: 4, L0758: 4, S0358: 3, L0770: 3, L0775: 3, L0809: 3, L0666: 3, H0521: 3, S0360: 2, H0431: 2, H0166: 2, H0674: 2, L0762: 2, L0646: 2, L0662: 2, L0651: 2, L0784: 2, H0648: 2, S0328: 2, H0696: 2, L0734: 2, L0599: 2, L0601: 2, H0306: 1, S0356: 1, S0354: 1, S0376: 1, S0408: 1, H0637: 1, H0331: 1, H0574: 1, L0021: 1, H0042: 1, H0036: 1, H0596: 1, H0597: 1, H0012: 1, H0620: 1, H0510: 1, H0109: 1, H0673: 1, H0169: 1, H0647: 1, S0426: 1, L0640: 1, L0763: 1, L0800: 1, L0764: 1, L0771: 1, L0388: 1, L0659: 1, L0517: 1, L0542: 1, L0545: 1, L0530: 1, L0543: 1, L0791: 1, S0374: 1, H0519: 1, H0689: 1, H0684: 1, H0659: 1, H0670: 1, S0380: 1, H0522: 1, H0478: 1, L0748: 1, L0751: 1, L0777: 1, L0780: 1 and L0753: 1.
86	HCRA10	695709	96	141 - 578	600				AR089: 10, AR060: 10 L0758: 6, H0545: 3, L0754: 3, L0759: 3, H0170: 2, L0766: 2, L0649: 2, L0665: 2, H0696: 2, H0177: 1, H0549: 1, H0392: 1, H0327: 1, L0695: 1, H0674: 1, H0529: 1, L0762: 1.

87	HCRBF72	828945	97	191 - 823	601	Gln-43 to Asn-49, Glu-59 to Gln-65, Lys-90 to Val-95, Glu-205 to Ser-211.	L0769: 1, L0800: 1, L0658: 1, L0809: 1, L0740: 1 and L0777: 1. AR033: 3, AR197: 2, AR060: 2, AR311: 2, AR271: 2, AR309: 1, AR089: 1 L0794: 7, H0551: 4, H0618: 3, H0617: 3, L0769: 3, L0747: 3, H0556: 2, S0356: 2, L0771: 2, L0789: 2, L0748: 2, L0757: 2, L0758: 2, L0596: 2, L0601: 2, H0170: 1, H0295: 1, H0650: 1, H0657: 1, H0341: 1, H0254: 1, H0580: 1, S0045: 1, H0370: 1, L0623: 1, H0013: 1, H0069: 1, H0706: 1, H0253: 1, H0581: 1, H0327: 1, H0546: 1, H0545: 1, H0178: 1, H0083: 1, H0266: 1, L0483: 1, H0606: 1, L0055: 1, H0165: 1, H0068: 1, H0616: 1, H0087: 1, H0059: 1, H0494: 1, S0438: 1, S0422: 1, H0529: 1, L5575: 1, L0372: 1, L0768: 1, L0387: 1, L0806: 1, L0809: 1, L5623: 1, S0148: 1, H0547: 1, H0435: 1, H0660: 1, H0666: 1, S0152: 1, H0521: 1, H0696: 1, H0627: 1, H0631: 1, L0743: 1, L0749: 1, L0750: 1, L0779: 1, L0759: 1, L0593: 1, H0665: 1, S0192: 1 and H0543: 1. AR089: 2
88	HCRNF78	793774	98	363 - 503	602		

89	HCUAF85	589520	99	230 - 595	603				H0031: 3, L0777: 3, L0803: 2, L0439: 2, L0608: 2, S0114: 1, S0001: 1, S0356: 1, H0587: 1, H0013: 1, H0036: 1, H0274: 1, H0622: 1, S0036: 1, H0038: 1, H0561: 1, L0662: 1, L0794: 1, L0804: 1, L0657: 1, L0787: 1, L0791: 1, L0666: 1, L0663: 1, H0660: 1, L0758: 1, L0589: 1, S0194: 1 and H0423: 1,
									AR265: 4, AR253: 3, AR202: 3, AR251: 2, AR186: 2, AR055: 2, AR205: 2, AR033: 2, AR248: 2, AR271: 2, AR206: 1, AR213: 1, AR310: 1, AR053: 1, AR061: 1, AR273: 1, AR052: 1, AR263: 1, H0306: 2 and H0305: 1,
90	HCUF89	637986	100	189 - 278	604	Gly-14 to Asp-21.			AR089: 10, AR060: 4 H0306: 1
91	HCUCK44	790277	101	598 - 780	605				AR245: 3, AR252: 3, AR311: 2, AR264: 1, AR212: 1, AR096: 1, AR213: 1, AR089: 1, AR201: 1 H0271: 19, S0002: 12, H0250: 8, S0144: 8, L0794: 8, L0777: 7, L0665: 6, H0518: 6, S0132: 5, H0264: 5, S0456: 5, S0328: 5, S0330: 5, L0758: 5, S0444: 4, S0344: 4, L0776: 4, L0659: 4, S0052: 4, S0053: 4, L0743: 4, L0747: 4,

92	HCUD64	835082	102	256 - 402	606	Met-1 to Ser-6, Gln-32 to Asn-39.	L0782: 1, L0787: 1, S0374: 1, H0690: 1, H0659: 1, H0658: 1, S0378: 1, H0710: 1, S0152: 1, H0696: 1, H0704: 1, S0406: 1, H0436: 1, L0744: 1, L0756: 1, L0779: 1, L0780: 1, L0755: 1, L0759: 1, S0031: 1, L0581: 1, L0601: 1, L0603: 1, S0196: 1 and H0352: 1, H0052: 3, S0012: 2, L0754: 2, H0402: 1, H0413: 1, S0374: 1, L0438: 1, L0748: 1 and L0740: 1.		
93	HCWAE64	535893	103	410 - 427	607		H0305: 1		
94	HCWPU39	651316	104	282 - 350	608		AR089: 3, AR060: 1 H0305: 3, L0439: 3, L0740: 3, L0581: 2, H0589: 1, H0156: 1, S0346: 1, H0318: 1, S0049: 1, H0052: 1, L0157: 1, T0010: 1 and L0438: 1.		
95	HCWUL09	834722	105	333 - 368	609		H0305: 9, H0589: 2 and S0001: 1.		
96	HDHAA42	695710	106	48 - 128	610		AR089: 9, AR060: 8 H0616: 4, L0803: 3, H0555: 3, H0038: 2, L0809: 2, L0439: 2, L0759: 2, L0005: 1, S0049: 1, H0569: 1, S0050: 1, L0163: 1, S0003: 1, L0771: 1, L0649: 1, L0804: 1, L0774: 1, L0775: 1, L0784: 1, L0659: 1, L0788: 1, L0664: 1, L0438: 1, H0648: 1, S0330: 1, L0602: 1, L0744: 1, L0748: 1, L0745: 1, L0747: 1, L0749: 1, L0752: 1.		

97	HDHEB76	553622	107	416 - 454	611		L0738: 1, L0608: 1, S0196: 1 and S0412: 1. AR060: 2 S0045: 6, S0046: 5, H0570: 2, H0030: 2, H0644: 2, L0435: 2, L0803: 2, L0731: 2, L0588: 2, H0170: 1, H0713: 1, T0049: 1, H0599: 1, H0581: 1, S0250: 1, H0213: 1, H0413: 1, H0623: 1, S0112: 1, S0344: 1, L0769: 1, L0794: 1, L0788: 1, S0032: 1, L0439: 1, L0738: 1 and L0605: 1.		
98	HDPCW16	840358	108	172 - 339	612	Met-1 to Ser-7.	AR089: 35, AR060: 4 L0783: 7, H0441: 5, L0666: 4, L0748: 4, H0484: 3, H0544: 3, L0659: 3, H0521: 3, L0439: 3, T0049: 2, H0657: 2, H0661: 2, S0420: 2, L0717: 2, H0370: 2, H0586: 2, H0009: 2, L0471: 2, H0617: 2, H0494: 2, H0529: 2, L0769: 2, L0764: 2, L0662: 2, L0517: 2, L0792: 2, L0663: 2, S0624: 1, H0341: 1, H0255: 1, H0664: 1, H0402: 1, S0418: 1, S0045: 1, S0046: 1, S0278: 1, H0600: 1, H0592: 1, H0497: 1, H0333: 1, L0021: 1, H0618: 1, H0046: 1, H0041: 1, H0178: 1, L0157: 1, S0250: 1, T0069: 1, L0351: 1, H0625: 1, H0641: 1, L0502: 1, L0770: 1, L0645: 1, L0533: 1, L0493: 1, L0518: 1.		

99	HDPD172	897277	109	23 - 385	613	Arg-63 to Phe-72, Ile-114 to Phe-120.	L0782: 1, L0809: 1, L0787: 1, L0789: 1, L0665: 1, L0438: 1, H0520: 1, S0126: 1, H0690: 1, H0539: 1, L0609: 1, L0612: 1, L0743: 1, L0747: 1, L0749: 1, L0786: 1, L0779: 1, L0731: 1, L0758: 1, L0759: 1, H0653: 1 and S0424: 1, AR263: 7, AR089: 5, AR060: 3, AR249: 3, AR206: 1, AR052: 1, AR312: 1, AR309: 1, H0521: 4, S0358: 1 and S0374: 1, AR263: 8, AR249: 6, AR053: 5, AR312: 5, AR309: 4, AR052: 4, AR198: 4, AR253: 4, AR243: 3, AR096: 3, AR213: 3, AR310: 2, AR273: 2, AR186: 2, AR104: 2, AR206: 2, AR060: 1, AR205: 1, AR033: 1, AR039: 1, L0766: 6, H0457: 5, H0581: 2, H0090: 2, H0521: 2, L0748: 2, H0171: 1, H0656: 1, S0212: 1, S0140: 1, H0261: 1, H0486: 1, H0156: 1, H0123: 1, L0471: 1, H0591: 1, T0041: 1, S0344: 1, S0426: 1, L0387: 1, L0776: 1, L0655: 1, L0367: 1, L0792: 1, L0438: 1, H0690: 1, H0539: 1, H0436: 1, L0439: 1, L0779: 1, L0780: 1, L0755: 1 and		
100	HDPD158	587265	110	279 - 341	614				

101	HDPFL10	855513	111	186 - 1463	615	Tyr-19 to Gly-24, Phe-101 to His-106, Glu-119 to Thr-124.	H0422: 1, AR243: 14, AR246: 11, AR197: 9, AR205: 8, AR245: 8, AR264: 7, AR272: 6, AR039: 6, AR263: 5, AR096: 5, AR201: 5, AR250: 4, AR198: 4, AR089: 3, AR309: 3, AR204: 3, AR207: 3, AR060: 2, AR312: 2, AR055: 2, AR061: 1, AR033: 1 H0521: 7, L0599: 2, H0265: 1, H0717: 1, H0363: 1, H0545: 1, H0652: 1, L0764: 1, L0803: 1, L0805: 1 and H0518: 1.		
102	HDPFLU43	790189	112	220 - 378	616		AR060: 7, AR089: 7 H0585: 9, H0622: 4, S0126: 4, H0141: 3, S0474: 3, H0553: 3, H0539: 3, L0750: 3, H0556: 2, H0717: 2, H0581: 2, S0440: 2, S0344: 2, S0422: 2, L0771: 2, L0774: 2, L0664: 2, S0380: 2, H0521: 2, L0751: 2, L0755: 2, H0650: 1, H0306: 1, S0420: 1, L0617: 1, S0444: 1, S0360: 1, H0580: 1, S0046: 1, H0619: 1, H0549: 1, H0587: 1, H0486: 1, T0039: 1, L0021: 1, H0274: 1, H0457: 1, H0012: 1, H0620: 1, S0003: 1, S0214: 1, H0615: 1, H0628: 1, H0087: 1, H0551: 1, S0438: 1, H0529: 1, L0770: 1, L0761: 1, L0767:		

103	HDPFY18	779450	113	161 - 184	617			1, L0768: 1, L0804: 1, L0515: 1, L0809: 1, H0703: 1, H0711: 1, H0672: 1, S0378: 1, H0522: 1, H0696: 1, H0555: 1, S014: 1, L0754: 1, L0747: 1, L0749: 1, L0731: 1, H0445: 1, S0436: 1, L0581: 1, S0026: 1, H0543: 1 and H0423: 1, AR089: 2, AR060: 1 S0114: 1, H0427: 1, H0123: 1, H0688: 1, H0264: 1, L0547: 1, L0518: 1, H0521: 1, H0445: 1 and H0543: 1, H0555: 8, S0002: 7, L0748: 6, H0556: 5, S0222: 5, H0179: 5, L0369: 5, S0045: 3, H0427: 3, H0599: 3, H0575: 3, H0271: 3, H0628: 3, H0598: 3, S0426: 3, L0766: 3, L0581: 3, H0265: 2, S0114: 2, S0212: 2, H0402: 2, S0354: 2, S0132: 2, H0431: 2, H0370: 2, H0632: 2, H0581: 2, H0196: 2, H0050: 2, L0665: 2, H0521: 2, S0390: 2, S0028: 2, L0777: 2, H0444: 2, H0423: 2, S0040: 1, L0002: 1, H0381: 1, S0116: 1, H0255: 1, H0662: 1, S0442: 1, S0360: 1, H0676: 1, H0580: 1, H0722: 1, S0046: 1, S0300: 1, L0717: 1, H0586: 1, H0333: 1, H0486: 1, H0706: 1, H0036: 1, T0048: 1, H0318: 1, S0474:
104	HDPGE24	801947	114	173 - 394	618			

							1, H0309; 1, H0121; 1, H0544; 1, S0050; 1, H0375; 1, H0266; 1, S0003; 1, S0214; 1, H0232; 1, H0031; 1, H0644; 1, H0124; 1, H0708; 1, H0400; 1, H0063; 1, H0264; 1, S0038; 1, H0280; 1, H0334; 1, H0625; 1, S0440; 1, H0509; 1, H0132; 1, S0210; 1, L0803; 1, L0525; 1, L0555; 1, L0529; 1, L0367; 1, L0532; 1, S0052; 1, S0428; 1, S0216; 1, H0547; 1, H0519; 1, S0126; 1, H0134; 1, S0406; 1, H0727; 1, H0345; 1, S0037; 1, L0740; 1, L0749; 1, S0031; 1, H0445; 1, H0707; 1, S0436; 1, L0605; 1, L0604; 1, L0601; 1 and H0543; 1.		
105	HDPIU94	813352	115	208-279	619		AR060; 12, AR089; 8, L0748; 5, L0595; 4, S0045; 3, H0124; 3, S0028; 3, L0439; 3, L0736; 3, S0360; 2, H0619; 2, S0222; 2, H0036; 2, H0052; 2, H0046; 2, L0041; 2, S0312; 2, H0551; 2, L0666; 2, H0144; 2, L0777; 2, L0592; 2, H0653; 2, H0136; 2, H0216; 2, H0624; 1, S0430; 1, H0656; 1, H0255; 1, S0376; 1, S0046; 1, H0645; 1, H0370; 1, H0013; 1, H0635; 1, H0156; 1, H0575; 1, H0050; 1, H0373; 1, H0687; 1, S0314; 1, S0250; 1,		

106	HDPOC24	777493	116	418 - 819	620				H0031: 1, H0135: 1, H0634: 1, 1, H0616: 1, H0264: 1, H0433: 1, H0059: 1, L0800: 1, L0764: 1, L0768: 1, L0766: 1, L0774: 1, L0375: 1, L0655: 1, L0809: 1, L0664: 1, L0665: 1, S0152: 1, H0521: 1, S0390: 1, S3014: 1, L0754: 1, L0745: 1, L0749: 1, L0750: 1, L0731: 1, S0260: 1, L0589: 1 and L0366: 1.
						Pro-36 to Cys-42, Pro-44 to Cys-54, Arg-100 to Gly-105.			H0585: 26, H0141: 12, L0666: 9, L0754: 9, L0755: 9, S0212: 6, L0663: 5, L0743: 5, S0356: 4, H0587: 4, H0553: 4, L0657: 4, L0382: 4, L0740: 4, L0747: 4, S0045: 3, S0046: 3, H0024: 3, L0771: 3, L0648: 3, L0662: 3, L0659: 3, L0664: 3, S0126: 3, H0522: 3, L0748: 3, L0777: 3, L0757: 3, S0192: 3, S0040: 2, S0420: 2, S0358: 2, H0550: 2, H0250: 2, H0575: 2, H0052: 2, H0546: 2, H0266: 2, H0100: 2, H0646: 2, S0002: 2, L0763: 2, L0649: 2, L0803: 2, L0775: 2, L0653: 2, L0517: 2, L0809: 2, L0790: 2, L0665: 2, H0660: 2, S0380: 2, H0521: 2, S3014: 2, S0028: 2, L0751: 2, H0665: 2, S0430: 1, H0341: 1, S0282: 1, H0664: 1, S0418: 1, S0354: 1, H0549: 1, S0222:

107	HDPOL37	745377	117	189 - 377	621	Met-1 to Arg-8, Gly-29 to Glu-36.	1, H0600: 1, H0497: 1, H0333: 1, H0618: 1, H0253: 1, S0474: 1, H0581: 1, H0235: 1, H0597: 1, H0545: 1, H0009: 1, H0081: 1, H0620: 1, H0023: 1, H0188: 1, H0687: 1, S0250: 1, L0483: 1, T0006: 1, L0055: 1, H0087: 1, H0551: 1, H0379: 1, H0264: 1, H0494: 1, H0625: 1, S0352: 1, H0641: 1, S0142: 1, H0529: 1, L0371: 1, L0769: 1, L0772: 1, L0800: 1, L0764: 1, L0773: 1, L0794: 1, L0386: 1, L0378: 1, L0806: 1, L0792: 1, L0565: 1, S0310: 1, H0519: 1, H0682: 1, H0684: 1, H0670: 1, S0328: 1, S0330: 1, S0332: 1, H0478: 1, S0432: 1, S3012: 1, S0390: 1, S0206: 1, L0742: 1, L0756: 1, L0779: 1, H0707: 1, S0434: 1, L0596: 1, H0668: 1, S0242: 1, H0506: 1 and H0008: 1.		
108	HIDPO076	838594	118	109 - 159	622		AR089: 14, AR060: 11, AR244: 5, AR265: 4, AR310: 2, AR271: 2, AR309: 1, AR312: 1, H0618: 2, H0040: 1 and H0522: 1. AR089: 546, AR060: 243 S0474: 19, L0766: 11, H0521: 10, L0803: 6, L0748: 6, L0717: 5, L0759: 5, S0003: 4, H0663: 3.		

							AR271: 38, AR243: 37, AR204: 33, AR263: 32, AR265: 31, AR206: 30, AR089: 29, AR310: 29, AR033: 29, AR096: 27, AR273: 24, AR198: 24, AR213: 23, AR251: 22, AR312: 20, AR060: 19, AR052: 19, AR053: 18, AR309: 18, AR104: 17, AR055: 13, AR186: 11, AR253: 10, AR061: 10, AR248: 8, AR249: 7 L0771: 5, L0794: 5, L0662: 3, L0803: 3, L0790: 3, H0600: 2, L0369: 2, L0763: 2, L0770: 2, L0764: 2, L0766: 2, L0774: 2, L0378: 2, L0789: 2, L0666: 2, L0748: 2, L0750: 2, L0756: 2, L0777: 2, H0650: 1, S0360: 1, L0717: 1, H0052: 1, H0024: 1, H0616: 1, H0059: 1, S0448: 1, L0769: 1, L0800: 1, L0767: 1, L0768: 1, L0649: 1, L0804: 1, L0806: 1, L0657: 1, L0512: 1, L0647: 1, L0664: 1, L0665: 1, S0374: 1, H0666: 1, H0518: 1, H0522: 1, L0745: 1, L0747: 1, L0749: 1, L0596: 1, L0581: 1 and H0136: 1.		
110	HDPPQ30	684292	120	220 - 336	624		H0522: 1		
111	HDPPW82	778405	121	395 - 484	625		H0522: 1		
112	HDPPXN20	801896	122	61 - 186	626	Glu-21 to Leu-26, Pro-34 to Ser-41.	H0521: 1		
113	HDOHM36	852328	123	129 - 275	627		AR089: 27, AR060: 10		

114	HDTAU35	838139	124	260 - 313	628		H0521: 2 and H0486: 1. AR060:1023, AR089: 621 H0486: 1	
115	HDTAV54	801898	125	191 - 292	629	Thr-20 to Gly-26.	AR060: 54, AR089: 46 L0751: 13, L0748: 8, L0758: 6, L0750: 5, L0752: 4, L0755: 4, L0757: 4, L0605: 4, L0717: 3, L0761: 3, L0659: 3, S0406: 3, L0740: 3, L0754: 3, L0747: 3, L0731: 3, L0596: 3, S0444: 2, L0770: 2, L0769: 2, L0662: 2, L0768: 2, L0766: 2, L0774: 2, L0775: 2, L0666: 2, H0672: 2, L0744: 2, L0745: 2, L0780: 2, L0753: 2, H0423: 2, H0224: 1, H0225: 1, T0049: 1, L0785: 1, S0116: 1, H0306: 1, S0354: 1, S0360: 1, S6026: 1, H0486: 1, L0477: 1, L0586: 1, S0280: 1, H0036: 1, H0421: 1, H0057: 1, S0051: 1, H0510: 1, S0250: 1, H0030: 1, H0644: 1, S0036: 1, S0438: 1, H0509: 1, S0422: 1, L0520: 1, L0762: 1, L0638: 1, L0772: 1, L0372: 1, L0646: 1, L0764: 1, L0771: 1, L0773: 1, L0648: 1, L0386: 1, L0776: 1, L0783: 1, L0790: 1, S0374: 1, H0682: 1, H0659: 1, H0670: 1, S0330: 1, H0539: 1, S0380: 1, H0704: 1, H0576: 1, L0743: 1, L0759: 1, L0588: 1, L0593: 1, L0361:	

116	HDTFX18	801957	126	164 - 226	630			1, L0366: 1, H0653: 1 and S0242: 1. AR060: 2, AR089: 1 L0748: 2, L0731: 2, H0486: 1, H0634: 1, L0766: 1, L0809: 1, L0750: 1 and L0777: 1.	
117	HDTGW48	827285	127	375 - 464	631			AR060: 1 H0591: 2, L0758: 2, H0583: 1, H0486: 1, H0618: 1, L0794: 1, L0804: 1, H0672: 1 and L0750: 1.	
118	HDTLM18	836057	128	345 - 524	632	Ilc-47 to Ser-60.		AR089: 6, AR060: 3 H0486: 1 and L0599: 1.	
119	HE2CA60	770301	129	360 - 383	633			AR089: 31, AR060: 16 L0777: 11, S0422: 8, L0766: 7, H0624: 5, H0170: 5, L0598: 5, L0665: 5, L0662: 4, L0756: 4, L0731: 4, L0758: 4, H0171: 3, L0776: 3, L0744: 3, L0752: 3, S0442: 2, L0717: 2, L0471: 2, H0428: 2, H0063: 2, L0650: 2, L0659: 2, L0666: 2, L0663: 2, S0406: 2, L0439: 2, S0434: 2, L0362: 2, H0685: 1, S0218: 1, H0650: 1, H0402: 1, S0358: 1, S0360: 1, H0722: 1, S0046: 1, S0300: 1, S0222: 1, H0592: 1, H0587: 1, H0486: 1, H0013: 1, L0021: 1, H0037: 1, H0581: 1, H0263: 1, H0050: 1, H0057: 1, L0163: 1, H0328: 1, T0023: 1, H0551: 1, H0100: 1, L0065: 1, S0440: 1, H0649: 1, L0769: 1.	

120	HE2CA60	888705	130	1731 - 1754	634		L0761: 1, L0667: 1, L0630: 1, L0372: 1, L0764: 1, L0521: 1, L0533: 1, L0775: 1, L0651: 1, L0806: 1, L0655: 1, L0656: 1, S0374: 1, H0547: 1, S0328: 1, H0539: 1, S0004: 1, H0696: 1, L0741: 1, L0740: 1, L0754: 1, L0747: 1, L0750: 1, L0753: 1, L0759: 1, S0031: 1, L0485: 1, S0242: 1, S0458: 1 and H0721: 1.
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121	HE2CH58	838140	131	321 - 479	635		L0171: 3, S0376: 1, L0637: 1, L0768: 1, L0805: 1, L0659: 1, L0748: 1, L0759: 1 and L0595: 1.		
122	HE2CM39	553651	132	10 - 51	636		AR089: 22, AR060: 13, L0759: 4, L0657: 3, L0789: 3, L0439: 3, L0752: 3, L0758: 3, S0360: 2, L0805: 2, L0438: 2, L0750: 2, L0777: 2, H0423: 2, H0171: 1, H0638: 1, H0351: 1, H0178: 1, H0606: 1, L0625: 1, L0769: 1, L0771: 1, L0662: 1, L0794: 1, L0803: 1, L0804: 1, L0650: 1, L0774: 1, L0659: 1, L0809: 1, L0663: 1, H0436: 1, L0748: 1, L0740: 1, H0445: 1, L0604: 1 and H0422: 1.		
123	HE2HC60	753265	133	273 - 392	637	Thr-26 to Gln-31.	AR089: 21, AR060: 14, L0439: 13, L0777: 9, L0717: 8, L0748: 6, L0659: 5, L0747: 4, H0318: 3, L0665: 3, L0779: 3, H0170: 2, H0212: 2, L0455: 2, L0764: 2, L0662: 2, L0768: 2, L0766: 2, L0775: 2, L0655: 2, H0520: 2, H0672: 2.		

124	HE2PO93	771655	134	770 - 898	638	<p>2, L0746: 2, L0755: 2, L0758: 2, L0759: 2, L0595: 2, H0624: 1, H0171: 1, H0685: 1, H0661: 1, H0402: 1, S0046: 1, H0333: 1, T0109: 1, H0013: 1, S0280: 1, L0021: 1, H0590: 1, H0581: 1, H0374: 1, H0596: 1, L0471: 1, H0014: 1, S0051: 1, S0003: 1, H0328: 1, H0617: 1, H0040: 1, H0412: 1, H0494: 1, H0641: 1, L0761: 1, L0645: 1, L0773: 1, L0521: 1, L0375: 1, L0651: 1, L0805: 1, L0776: 1, L0526: 1, L0783: 1, L0809: 1, L0789: 1, L0666: 1, L0664: 1, H0701: 1, L0352: 1, H0547: 1, H0658: 1, H0670: 1, H0648: 1, H0651: 1, H0436: 1, L0740: 1, L0754: 1, L0752: 1, L0757: 1, L0591: 1, L0592: 1 and H0293: 1, AR089: 1, AR060: 10, L0803: 5, L0731: 5, S0422: 4, H0171: 2, S0408: 2, H0040: 2, L0766: 2, L0666: 2, H0144: 2, H0648: 2, L0748: 2, L0439: 2, L0754: 2, L0779: 2, H0170: 1, S0114: 1, H0657: 1, S0354: 1, S0360: 1, H0580: 1, H0741: 1, L0717: 1, H0411: 1, H0431: 1, H0586: 1, H0052: 1, H0596: 1, H0014: 1, S0388: 1, S0051: 1, S0003: 1, H0591: 1, T0042:</p>
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125	HE6AU52	562782	135	41 - 166	639	Gln-17 to Arg-24.	H0008: 1	AR089: 36, AR060: 21 L0777: 16, L0748: 12, L0757: 11, L0776: 8, L0439: 7, H0692: 6, H0046: 6, L0769: 5, L0666: 5, S0242: 5, L0770: 4, L0771: 4, L0438: 4, L0743: 4, L0754: 4, L0749: 4, L0758: 4, S0444: 3, H0051: 3, L0662: 3, L0766: 3, S0378: 3, L0751: 3, L0747: 3, S0436: 3, S0212: 2, H0637: 2, H0497: 2, H0545: 2, H0050: 2, H0031: 2, H0090: 2, H0100: 2, L0768: 2, L0561: 2, L0774: 2, L0775: 2, L0657: 2, H0670: 2, S3014: 2, L0744: 2, L0752: 2, L0581: 2, H0624: 1, H0170: 1, H0713: 1, H0717: 1, S6024: 1, T0049: 1, H0255: 1, S0356: 1, S0442: 1, S0358: 1, S0376: 1, S0360: 1, H0619: 1, L0717: 1.				
126	HE6CS65	762960	136	295 - 483	640	Trp-50 to Leu-55.						

127	HE6D092	562767	137	38 - 115	641				S0278: 1, H0391: 1, H0333: 1, H0013: 1, H0053: 1, H0575: 1, S0346: 1, H0052: 1, H0263: 1, H0596: 1, L0738: 1, H0572: 1, H0510: 1, H0266: 1, H0688: 1, H0039: 1, H0622: 1, H0111: 1, H0181: 1, H0617: 1, H0032: 1, H0169: 1, H0634: 1, H0087: 1, H0412: 1, S0450: 1, S0440: 1, L0639: 1, L0637: 1, L0372: 1, L0646: 1, L0651: 1, L0806: 1, L0659: 1, L0792: 1, L0664: 1, L0665: 1, S0216: 1, H0144: 1, H0697: 1, S0374: 1, H0520: 1, H0547: 1, H0658: 1, H0660: 1, H0648: 1, H0521: 1, H0696: 1, S0027: 1, S0028: 1, L0741: 1, L0740: 1, L0779: 1, L0731: 1, L0759: 1, S0260: 1, H0445: 1, S0434: 1, L0362: 1 and L0366: 1.
128	HE6EY13	847058	138	171 - 311	642	Thr-32 to Leu-37.			AR060: 6, AR089: 3, H0265: 1 and H0100: 1.
									AR089: 22, AR060: 17, L0748: 10, L0750: 6, H0181: 5, H0265: 4, S0007: 4, H0545: 4, H0542: 4, H0543: 4, H0657: 3, H0662: 3, S0474: 3, H0135: 3, H0040: 3, H0087: 3, H0494: 3, S0142: 3, L0764: 3, S0126: 3, L0751: 3, L0754: 3, L0731: 3, L0757: 3, L0738: 3, H0638: 2, H0441: 2, H0618: 2, H0581: 2.

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129	HE6FU11	827236	139	145 - 825	643			H0539: 1, S0378: 1, S0380: 1, H0521: 1, S0406: 1, H0555: 1, H0478: 1, S014: 1, S0027: 1, L0439: 1, L0780: 1, L0752: 1, L0755: 1, H0444: 1, H0445: 1, L0591: 1, L0362: 1, L0361: 1, H0668: 1, S0026: 1, S0242: 1, H0403: 1, H0422: 1 and S0456: 1.	
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130	HE6FV29	588454	140	210 - 311	644			AR271: 33, AR244: 29, AR243: 28, AR089: 27, AR273: 25, AR205: 24, AR206: 22, AR198: 19, AR039: 19, AR246: 17, AR204: 16, AR194: 15, AR186: 14, AR060: 14, AR251: 10, AR061: 10, AR202: 9, AR055: 8, AR312: 8, AR249: 7, AR310: 7, AR052: 7, AR033: 7, AR265: 7, AR309: 7, AR248: 5,	

132	HE8FC45	845672	142	155 - 298	646		2, L0365: 2, H0619: 1, S0222: 1, H0587: 1, H0013: 1, H0635: 1, H0615: 1, H0124: 1, H0477: 1, H0264: 1, T0042: 1, S0426: 1, L0766: 1, L0379: 1, S0053: 1, L0758: 1 and H0543: 1. AR089: 28, AR060: 14 H0556: 2, L0534: 2, L0562: 2, L0539: 2, L0109: 2, L0365: 2, H0619: 1, S0222: 1, H0587: 1, H0013: 1, H0635: 1, H0615: 1, H0124: 1, H0477: 1, H0264: 1, T0042: 1, S0426: 1, L0766: 1, L0379: 1, S0053: 1, L0758: 1 and H0543: 1.		
133	HE8FD92	888274	143	157 - 288	647		AR060: 6, AR089: 4 H0457: 10, L0659: 9, L0748: 8, L0439: 7, L0747: 7, L0666: 6, L0663: 6, L0758: 6, L0759: 6, L0717: 5, L0005: 4, L0777: 4, H0423: 4, H0013: 3, H0622: 3, L0637: 3, L0662: 3, L0768: 3, L0375: 3, L0655: 3, L0661: 3, H0170: 2, H0171: 2, H0716: 2, H0650: 2, H0661: 2, S0444: 2, S0360: 2, S0007: 2, H0351: 2, H0586: 2, S0414: 2, H0486: 2, H0427: 2, H0251: 2, H0178: 2, L0471: 2, H0014: 2, H0163: 2, H0038: 2, H0059: 2, S0422: 2, L0638: 2, L0761: 2, L0766: 2, L0649: 2, L0650: 2, L0775: 2, L0776: 2, L0657:		

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134	HE8FD92	843825	144	1074-1205	648		AR060: 6, AR089: 4 H0457: 10, L0659: 9, L0748: 8, L0439: 7, L0747: 7, L0666: 6, L0663: 6, L0738: 6, L0759: 6, L0717: 5, L0005: 4, L0777: 4, H0423: 4, H0013: 3, H0622: 3, L0637: 3, L0662: 3, L0768: 3, L0375: 3, L0655: 3, L0661: 3, H0170: 2, H0171: 2, H0716: 2, H0650: 2, H0661: 2, S0444: 2, S0360: 2, S0007: 2, H0351: 2, H0586: 2, S0414: 2, H0486: 2, H0427: 2, H0251: 2, H0178: 2, L0471: 2, H0014: 2, H0163: 2, H0038: 2, H0059: 2, S0422: 2, L0638: 2, L0761: 2, L0766: 2, L0649: 2, L0650: 2, L0775: 2, L0776: 2, L0657: 2, L0517: 2, L0665: 2, H0144: 2, H0690: 2, H0648: 2, S0152: 2, H0696: 2, H0436: 2, L0750: 2, L0731: 2, H0685: 1, S0114: 1, H0583: 1, H0657: 1, S0029: 1, S0358: 1, S0376: 1, S0408: 1, H0619: 1, H0261: 1, S0223: 1, H0587: 1, H0333: 1, S0280: 1, L0021: 1, H0098: 1, S0010: 1, H0052: 1, H0150: 1, H0172: 1, H0024: 1, T0010: 1, H0266: 1, S0003: 1, H0428: 1, H0070: 1, L0483: 1, H0030: 1, H0032: 1, H0316: 1, S0036: 1, H0090: 1,
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135	HERID92	856544	145	2 - 1414	649	Asp-11 to Tyr-16.	H0591: 1, H0372: 1, H0714: 1, H0646: 1, H0652: 1, L0598: 1, L0520: 1, L0762: 1, L0763: 1, L0631: 1, L4747: 1, L5565: 1, L0667: 1, L0646: 1, L0641: 1, L0645: 1, L0764: 1, L0771: 1, L0767: 1, L0533: 1, L0803: 1, L0784: 1, L0806: 1, L0606: 1, L0558: 1, L0809: 1, L0519: 1, L0647: 1, L0789: 1, L0664: 1, H0519: 1, S0126: 1, H0689: 1, H0682: 1, H0659: 1, H0670: 1, L0602: 1, H0710: 1, S0136: 1, H0134: 1, H0478: 1, H0727: 1, L0749: 1, L0756: 1, L0780: 1, L0755: 1, S0434: 1, L0603: 1, S0011: 1, S0026: 1, H0422: 1 and S0398: 1, AR060: 6, AR089: 4 H0457: 10, L0659: 9, L0748: 8, L0439: 7, L0747: 7, L0666: 6, L0663: 6, L0758: 6, L0759: 6, L0717: 5, L0005: 4, L0777: 4, H0423: 4, H0013: 3, H0622: 3, L0637: 3, L0662: 3, L0768: 3, L0375: 3, L0655: 3, L0661: 3, H0170: 2, H0171: 2, H0716: 2, H0650: 2, H0661: 2, S0444: 2, S0360: 2, S0007: 2, H0351: 2, H0586: 2, S0414: 2, H0486: 2, H0427: 2, H0251: 2, H0178: 2, L0471: 2, H0014: 2, H0163: 2, H0038:
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136	HE8FD92	869847	146	2268 - 2399	650				<p>1, L0756: 1, L0780: 1, L0755: 1, S0434: 1, L0603: 1, S0011: 1, S0026: 1, H0422: 1 and S0398: 1, AR060: 6, AR089: 4 H0457: 10, L0659: 9, L0748: 8, L0439: 7, L0747: 7, L0666: 6, L0663: 6, L0758: 6, L0759: 6, L0717: 5, L0005: 4, L0777: 4, H0423: 4, H0013: 3, H0622: 3, L0637: 3, L0662: 3, L0768: 3, L0375: 3, L0655: 3, L0661: 3, H0170: 2, H0171: 2, H0716: 2, H0650: 2, H0661: 2, S0444: 2, S0360: 2, S0007: 2, H0351: 2, H0586: 2, S0414: 2, H0486: 2, H0427: 2, H0251: 2, H0178: 2, L0471: 2, H0014: 2, H0163: 2, H0038: 2, H0059: 2, S0422: 2, L0638: 2, L0761: 2, L0766: 2, L0649: 2, L0650: 2, L0775: 2, L0776: 2, L0657: 2, L0517: 2, L0665: 2, H0144: 2, H0690: 2, H0648: 2, S0152: 2, H0696: 2, H0436: 2, L0750: 2, L0731: 2, H0685: 1, S0114: 1, H0583: 1, H0657: 1, S0029: 1, S0358: 1, S0376: 1, S0408: 1, H0619: 1, H0261: 1, S0222: 1, H0587: 1, H0333: 1, S0280: 1, L0021: 1, H0098: 1, S0010: 1, H0052: 1, H0150: 1, H0172: 1, H0024: 1, T0010: 1,</p>
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137	HE8FD92	901142	147	2141 - 2272	651					H0266: 1, S0003: 1, H0428: 1, H0070: 1, L0483: 1, H0030: 1, H0032: 1, H0316: 1, S0036: 1, H0090: 1, H0591: 1, H0372: 1, H0714: 1, H0646: 1, H0652: 1, L0598: 1, L0520: 1, L0762: 1, L0763: 1, L0631: 1, L4747: 1, L5565: 1, L0667: 1, L0646: 1, L0641: 1, L0645: 1, L0764: 1, L0771: 1, L0767: 1, L0533: 1, L0803: 1, L0784: 1, L0806: 1, L0606: 1, L0558: 1, L0809: 1, L0519: 1, L0647: 1, L0789: 1, L0664: 1, H0519: 1, S0126: 1, H0689: 1, H0682: 1, H0659: 1, H0670: 1, L0602: 1, H0710: 1, S0136: 1, H0134: 1, H0478: 1, H0727: 1, L0749: 1, L0756: 1, L0780: 1, L0755: 1, S0434: 1, L0603: 1, S0011: 1, S0026: 1, H0422: 1 and S0398: 1. AR060: 6, AR089: 4, H0457: 10, L0659: 9, L0748: 8, L0439: 7, L0747: 7, L0666: 6, L0663: 6, L0758: 6, L0759: 6, L0717: 5, L0005: 4, L0777: 4, H0423: 4, H0013: 3, H0622: 3, L0637: 3, L0662: 3, L0768: 3, L0375: 3, L0655: 3, L0661: 3, H0170: 2, H0171: 2, H0716: 2, H0650: 2, H0661: 2, S0444: 2, S0360: 2, S0007: 2, H0351: 1.
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	2, H0586; 2, S0414; 2, H0486; 2, H0477; 2, H0251; 2, H0178; 2, L0471; 2, H0014; 2, H0163; 2, H0038; 2, H0059; 2, S0422; 2, L0638; 2, L0761; 2, L0766; 2, L0649; 2, L0650; 2, L0773; 2, L0776; 2, L0657; 2, L0517; 2, L0665; 2, H0144; 2, H0690; 2, H0648; 2, S0152; 2, H0696; 2, H0436; 2, L0750; 2, L0731; 2, H0685; 1, S0114; 1, H0583; 1, H0657; 1, S0029; 1, S0358; 1, S0376; 1, S0408; 1, H0619; 1, H0261; 1, S0222; 1, H0387; 1, H0333; 1, S0280; 1, L0021; 1, H0098; 1, S0010; 1, H0052; 1, H0150; 1, H0172; 1, H0024; 1, T0010; 1, H0266; 1, S0003; 1, H0428; 1, H0070; 1, L0483; 1, H0030; 1, H0032; 1, H0316; 1, S0036; 1, H0090; 1, H0591; 1, H0372; 1, H0714; 1, H0646; 1, H0652; 1, L0598; 1, L0520; 1, L0762; 1, L0763; 1, L0631; 1, L4747; 1, L5565; 1, L0667; 1, L0646; 1, L0641; 1, L0645; 1, L0764; 1, L0771; 1, L0767; 1, L0533; 1, L0803; 1, L0784; 1, L0806; 1, L0606; 1, L0558; 1, L0809; 1, L0519; 1, L0647; 1, L0789; 1, L0664; 1, H0519; 1, S0126; 1, H0689;
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138	HESSG96	862016	148	118 - 192	652	Tyr-16 to Glu-23.	1, H0682: 1, H0659: 1, H0670: 1, L0602: 1, H0710: 1, S0136: 1, H0134: 1, H0478: 1, H0727: 1, L0749: 1, L0756: 1, L0780: 1, L0755: 1, S0434: 1, L0603: 1, S0011: 1, S0026: 1, H0422: 1 and S0398: 1, AR052: 43, AR248: 40, AR249: 35, AR253: 33, AR096: 31, AR312: 30, AR053: 28, AR265: 24, AR213: 24, AR310: 23, AR263: 21, AR309: 20, AR251: 13, AR089: 10, AR055: 9, AR033: 8, AR212: 7, AR061: 6, AR197: 6, AR250: 6, AR264: 6, AR207: 5, AR308: 5, AR245: 5, AR060: 5, AR311: 4, AR039: 4, AR201: 4, AR254: 3, AR272: 3, AR204: 3, AR186: 2, AR271: 2, AR104: 2, AR205: 2, AR198: 2, AR243: 2 H0244: 1, S0126: 1 and L0366: 1		
139	HE8TY46	899528	149	1413 - 1976	653		AR060: 6, AR089: 6, AR265: 5, AR251: 4, AR061: 4, AR309: 4, AR033: 4, AR096: 4, AR244: 3, AR310: 3, AR253: 3, AR213: 2, AR312: 2, AR186: 2, AR055: 2, AR271: 1, AR052: 1, AR039: 1		

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140	HE9CY05	834826	150	55 - 762	654	Ser-18 to Glu-24, Leu-121 to Asp-134, Pro-142 to Ala-154, Cys-185 to Val-203, Arg-6 to Trp-11.	L0748: 8, L0749: 3, L0471: 2 and H0144: 1.	
141	HE9EA10	827796	151	212 - 448	655		L0794: 12, H0620: 3, L0756: 2, L0759: 2, S0408:	

142	HE9G020	633719	152	319 - 348	656			1, S0049: 1, H0544: 1, H0012: 1, H0615: 1, H0040: 1, L0764: 1, L0803: 1, L0806: 1, L0789: 1, H0144: 1, H0547: 1, L0779: 1, L0597: 1 and L0595: 1, AR089: 11, AR060: 9 L0748: 6, H0144: 3, S0010: 2, L0439: 2, L0749: 2, H0717: 1, H0662: 1, S0022: 1, S0222: 1, S0280: 1, L0109: 1, H0163: 1, L0639: 1, L0659: 1, L0744: 1, L0745: 1, L0747: 1, L0756: 1, L0596: 1 and S0276: 1, AR060: 7, AR089: 4 S0418: 4, L0438: 4, L0599: 4, L0741: 3, H0581: 2, S0422: 2, L0770: 2, L0659: 2, H0520: 2, H0547: 2, L0439: 2, L0754: 2, L0747: 2, L0779: 2, S0007: 1, S0010: 1, S0049: 1, H0673: 1, H0494: 1, H0625: 1, L0769: 1, L0645: 1, L0662: 1, L0794: 1, L0766: 1, L0775: 1, L0789: 1, L0666: 1, L0663: 1, S0374: 1, S0436: 1, L0593: 1, L0366: 1 and S0196: 1, AR060: 4, AR089: 2 L0438: 3, T0010: 2, L0351: 2, L0748: 2, L0747: 2, S0116: 1, S0354: 1, S0007: 1, H0619: 1, H0135: 1, L0521: 1, L0774: 1, L0809: 1, H0521: 1, L0439: 1, L0755: 1, L0758: 1 and
143	HEBCT18	831464	153	855 - 1064	657	Val-40 to Cys-45, Lys-58 to Thr-64.		
144	HEBCY54	600355	154	172 - 528	658	Arg-18 to Lys-26, Gly-35 to Ala-42, Gln-61 to Gly-67.		

145	HEBDF77	692347	155	681 - 791	659		H0445: 1. AR213: 5, AR060: 4, AR254: 3, AR089: 3, AR207: 3, AR205: 2, AR243: 2, AR197: 2, AR309: 1, AR096: 1, AR264: 1, AR104: 1, L0438: 5, L0439: 5, L0759: 2, L0005: 1, S0007: 1, H0351: 1, S0346: 1, L0157: 1, L0351: 1, L0769: 1, L0794: 1, L0776: 1, L0741: 1, L0756: 1, L0608: 1 and L0366: 1.		
146	HEBDQ91	840288	156	1211 - 1336	660		AR060: 9, AR089: 7 S0007: 5, L0805: 2, S6026: 1, L0769: 1, L0438: 1, L0741: 1, L0748: 1 and L0758: 1.		
147	HEBFR46	847064	157	200 - 289	661	Met-1 to Thr-6.	AR089: 29, AR060: 15 H0457: 10, H0550: 5, H0436: 5, H0549: 4, H0616: 4, H0556: 3, H0580: 3, S0007: 3, H0521: 3, L0747: 3, H0295: 2, T0040: 2, L0809: 2, L0789: 2, H0658: 2, L0731: 2, L0596: 2, H0543: 2, S0040: 1, S0282: 1, H0662: 1, H0402: 1, H0125: 1, L0534: 1, L0562: 1, S0356: 1, S0358: 1, S0046: 1, H0559: 1, H0069: 1, H0599: 1, H0618: 1, H0318: 1, H0581: 1, H0546: 1, H0123: 1, H0083: 1, H0266: 1, H0687: 1, H0284: 1, H0124: 1, H0038: 1, H0551: 1, H0623: 1, S0038:		

148	HEBGB07	798096	158	106 - 234	662				1, T0041: 1, S0150: 1, S0002: 1, L0761: 1, L0627: 1, L0662: 1, L0666: 1, H0547: 1, H0519: 1, H0539: 1, S0037: 1, S0206: 1, L0748: 1, L0777: 1, H0595: 1 and L0593: 1.		
149	HEGAU15	834379	159	59 - 163	663				S0007: 1 AR060: 7, AR089: 5 H0550: 2, L0749: 2, H0483: 1, H0318: 1 and H0555: 1.		
150	HELAT35	693175	160	215 - 277	664				AR089: 10, AR060: 6 S0045: 1 and H0100: 1.		
151	HELB054	637624	161	82 - 135	665				AR089: 15, AR060: 9 L0748: 3, S0045: 1 and L0749: 1.		
152	HELCG84	674456	162	147 - 215	666				AR060: 4, AR089: 3 L0750: 5, S0045: 2, S0212: 1, S0300: 1, S0010: 1, H0505: 1, S0049: 1, H0266: 1, L0598: 1, L0662: 1, L0809: 1, S0374: 1, H0696: 1 and L0758: 1.		
153	HELCG84	851137	163	147 - 215	667				AR060: 4, AR089: 3 L0750: 5, S0045: 2, S0212: 1, S0300: 1, S0010: 1, H0505: 1, S0049: 1, H0266: 1, L0598: 1, L0662: 1, L0809: 1, S0374: 1, H0696: 1 and L0758: 1.		
154	HEMEY47	834491	164	440 - 472	668				AR089: 35, AR060: 16 L0717: 2, L0527: 2, S0046: 1, L0646: 1, L0748: 1, L0750: 1 and L0581: 1.		
155	HEOMIC46	866171	165	154 - 309	669			Ser-5 to Thr-10, Cys-36 to Glu-51.	AR089: 23, AR060: 13 H0581: 2, H0457: 2 and S0116: 1.		

156	HEPBA14	855935	166	664 - 711	670		AR052: 194, AR053: 169, AR245: 151, AR212: 140, AR205: 138, AR213: 131, AR253: 125, AR312: 124, AR273: 117, AR254: 115, AR248: 107, AR250: 104, AR309: 102, AR308: 99, AR249: 97, AR243: 94, AR104: 91, AR186: 90, AR272: 88, AR033: 88, AR310: 81, AR096: 75, AR264: 75, AR246: 73, AR201: 71, AR206: 71, AR265: 69, AR197: 68, AR202: 62, AR244: 62, AR271: 62, AR207: 57, AR039: 56, AR089: 54, AR311: 54, AR198: 50, AR252: 50, AR251: 48, AR263: 47, AR060: 44, AR194: 39, AR061: 37, AR204: 34, AR055: 20, H0150: 1	
157	HEQAHS0	701984	167	150 - 248	671		AR060: 3, AR089: 2, S0358: 4, H0544: 2, H0551: 2, S0002: 2, H0672: 2, L0755: 2, S0376: 1, H0635: 1, L0022: 1, H0042: 1, H0575: 1, H0545: 1, H0266: 1, H0644: 1, H0591: 1, H0488: 1, S0344: 1, L0771: 1, L0803: 1, L0804: 1, S0053: 1, H0547: 1, H0435: 1, H0696: 1, S0406: 1, L0751: 1, L0757: 1, S0434: 1, L0591: 1 and S0458: 1	
158	HEQBFS9	786205	168	306 - 458	672	Glu-17 to Gly-22,	AR089: 46, AR060: 21	

159	HETC116	844543	169	237 - 359	673	Arg-29 to Phe-36. Met-1 to Trp-9.	H0544: 1 AR060: 18, AR089: 17 H0046: 6, L0747: 6, L0756: 6, L0740: 5, L0662: 4, L0803: 4, L0748: 4, S0360: 3, H0620: 3, H0014: 3, H0674: 3, L0774: 3, L0439: 3, H0431: 2, L0761: 2, L0794: 2, L0663: 2, H0659: 2, L0751: 2, L0779: 2, L0596: 2, L0588: 2, T0049: 1, S0376: 1, S0444: 1, S0408: 1, S0468: 1, S0045: 1, H0645: 1, H0549: 1, H0550: 1, T0109: 1, H0013: 1, H0156: 1, H0599: 1, H0575: 1, T0048: 1, H0196: 1, H0597: 1, H0544: 1, H0050: 1, H0510: 1, H0288: 1, H0292: 1, H0039: 1, H0135: 1, H0616: 1, S0016: 1, L0640: 1, L0770: 1, L0637: 1, L0388: 1, L0805: 1, L0776: 1, L0659: 1, L0809: 1, L0790: 1, L0792: 1, L0666: 1, L0664: 1, H0144: 1, L0438: 1, H0547: 1, H0519: 1, H0689: 1, H0672: 1, S0328: 1, H0521: 1, H0627: 1, S3014: 1, S0028: 1, L0780: 1, L0757: 1, L0758: 1, S0026: 1 and H0506: 1.		
160	HETDW58	790557	170	541 - 609	674		AR089: 31, AR060: 24 L0731: 15, L0439: 10, L0752: 6, L0766: 5, L0779: 5, H0046: 4, H0494: 4, L0770: 4, L0774: 4, H0013:		

161	HETEX67	704077	171	292 - 492	675		1, L0745: 1, L0747: 1, L0755: 1, H0445: 1, S0436: 1, L0592: 1, L0608: 1, L0361: 1, S0026: 1, S0242: 1, H0422: 1, S0424: 1 and H0352: 1.		
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162	HFCDW95	847383	172	151 - 159	676		L0766: 9, H0521: 7, L0731: 7, H0341: 6, L0770: 6, L0771: 6, L0803: 6, L0754: 6, L0752: 6, S0354: 5, L0662: 5, H0519: 5, L0439: 5, L0779: 5, L0758: 5, S0436: 5, H0009: 4, H0673: 4, S0422: 4, L0521: 4, L0659: 4, L0438: 4, S0028: 4, L0485: 4, L0601: 4, H0657: 3, H0638: 3, S0418: 3, S0007: 3, S0222: 3, S0214: 3, H0529: 3, L0369: 3, L0794: 3, L0649: 3, L0805: 3, L0776: 3, L0809: 3, L0665: 3, H0144: 3, H0670: 3, S0406: 3, L0756: 3, L0755: 3, L0759: 3, H0667: 3, S0420: 2, S0358: 2, S0360: 2, H0580: 2, H0729: 2, H0733: 2, S0476: 2, H0645: 2, S6026: 2, S0300: 2, H0427: 2, H0156: 2, S0010: 2, H0085:		

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163	HFCEI04	692438	173	136 - 264	677	Asn-21 to Gly-28.	I, H0038: 1, H0551: 1, H0380: 1, H0623: 1, S0386: 1, T0042: 1, H0494: 1, H0561: 1, S0370: 1, H0509: 1, H0130: 1, H0641: 1, L0598: 1, L0763: 1, L0638: 1, L0796: 1, L0667: 1, L0630: 1, L0373: 1, L0800: 1, L0641: 1, L0773: 1, L5569: 1, L5574: 1, L0381: 1, L0655: 1, L0607: 1, L0661: 1, L0527: 1, L0518: 1, L5622: 1, L5623: 1, L0787: 1, L0789: 1, L0790: 1, L0792: 1, L0793: 1, S0374: 1, H0520: 1, S0126: 1, H0648: 1, H0710: 1, H0522: 1, H0696: 1, H0555: 1, H0436: 1, S0392: 1, S0312: 1, L0742: 1, L0745: 1, L0747: 1, L0749: 1, L0777: 1, L0593: 1, L0366: 1, S0026: 1, S0242: 1, S0276: 1, S0196: 1, H0543: 1, H0423: 1 and S0460: 1, AR060: 7, AR089: 5 H0009: 3
164	HFCEI04	824057	174	170 - 217	678	Phe-2 to Trp-7.	AR089: 93, AR060: 55 L0747: 43, L0666: 20, L0752: 19, L0663: 18, L0439: 18, L0750: 17, L0731: 17, L0664: 13, L0665: 13, L0438: 13, L0748: 13, L0758: 13, L0662: 10, L0771: 10, L0659: 9, L0757: 9, L0775: 8, H0520: 8, H0547: 8, L0751: 8, S0436: 8, S0358:

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Chlorine

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165	HFCHE20	701985	175	216 - 272	679		H0251: 9, S0136: 8, S0422: 7, L0747: 7, L0803: 6, L0439: 6, L0766: 5, H0144: 5, H0547: 5, L0731: 5, H0497: 4, H0622: 4, H0551: 4, H0264: 4, H0529: 4, S0314: 4, L0779: 4, L0755: 4, H0170: 3, S0444: 3, H0431: 3, S0150: 3, H0538: 3, L0662: 3, L0663: 3, L0777: 3, L0591: 3, H0423: 3, S0040: 2, H0717: 2, S0358: 2, H0580: 2, S0132: 2, H0550: 2, H0586: 2, H0427: 2, H0036: 2, S0010: 2, H0581: 2, H0052: 2, H0263: 2, H0457: 2, L0471: 2, L0010: 2, H0615: 2, L0483: 2, H0674: 2, H0494: 2, H0560: 2, S0438: 2, H0641: 2, L0598: 2, L0763: 2, L0638: 2, L0761: 2, L0646: 2, L0771: 2, L0794: 2, L0805: 2, L0659: 2, L0666: 2, L0665: 2, S0406: 2, H0436: 2, L0754: 2, L0756: 2, L0758: 2, L0759: 2, S0260: 2, L0588: 2, L0589: 2, L0581: 2, L0599: 2, L0604: 2, H0136: 2, H0542: 2, H0624: 1, H0224: 1, H0738: 1, S0218: 1, L0002: 1, H0583: 1, H0656: 1, L0470: 1, S0116: 1, S0212: 1, H0661: 1, H0663: 1, H0305: 1, H0450: 1, H0638: 1, S0420: 1, S0356: 1, S0354: 1, S0376: 1,
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166	HFEAY59	658685	176	154 - 276	680	Arg-2 to Lys-8, Arg-22 to Lys-31.	L0752: 1, S0434: 1, S0436: 1, L0596: 1, L0587: 1, L0608: 1, L0601: 1, L0366: 1, H0665: 1, S0194: 1, S0276: 1, S0196: 1, H0543: 1, H0422: 1, S0424: 1, S0460: 1 and H0721: 1.		
167	HFGAJ16	580824	177	40 - 135	681		AR060: 4, AR089: 2, H0081: 2 and H0586: 1, L0747: 17, H0617: 14, L0740: 11, L0750: 9, L0752: 9, S0360: 8, L0751: 8, H0265: 7, S0344: 7, L0748: 7, H0545: 6, L0438: 6, H0539: 6, L0757: 6, L0591: 6, S0278: 5, H0618: 5, H0081: 5, S0142: 5, L0662: 5, L0766: 5, L0665: 5, S0406: 5, L0742: 5, L0758: 5, H0713: 4, H0717: 4, H0551: 4, S0440: 4, S0144: 4, S0002: 4, L0769: 4, L0768: 4, L0659: 4, L0783: 4, L0809: 4, H0670: 4, H0521: 4, S0418: 3, S0410: 3, S0045: 3, S0046: 3, S0474: 3, H0052: 3, H0083: 3, H0494: 3, L0640: 3, L0775: 3, L0776: 3, L0532: 3, L0663: 3, L0741: 3, L0743: 3, L0744: 3, L0439: 3, L0753: 3, H0716: 2, S0134: 2, H0650: 2, H0483: 2, H0255: 2, H0663: 2, S0356: 2, S0444: 2, S0476: 2, H0431: 2, H0333: 2, S0346: 2, H0546: 2, H0046: 2, H0510: 2, H0424: 2.		

168	HF-HZ75	827872	178	700 - 855	682	Pro-31 to Pro-36, Ser-39 to Ile-49.	S0130: 1, H0142: 1, S0210: 1, L0369: 1, L0646: 1, L0800: 1, L0764: 1, L0771: 1, L0626: 1, L0587: 1, L0375: 1, L0806: 1, L0805: 1, L0655: 1, L0657: 1, L0517: 1, L0542: 1, L0526: 1, L0518: 1, L0384: 1, L0382: 1, S0428: 1, S0374: 1, S0148: 1, H0520: 1, S0126: 1, H0683: 1, H0658: 1, S0330: 1, S0380: 1, L0602: 1, H0518: 1, H0696: 1, H0631: 1, S0104: 1, S0027: 1, L0754: 1, L0786: 1, L0755: 1, L0759: 1, S0031: 1, H0707: 1, S0434: 1, L0587: 1, L0592: 1, L0599: 1, L0608: 1, L0593: 1, S0011: 1, S0192: 1, S0242: 1, H0543: 1, L0469: 1, L0698: 1, S0424: 1, H0293: 1 and H0712: 1.		
							AR089: 16, AR060: 10 H0251: 8, L0734: 8, L0748: 7, L0742: 6, L0439: 6, H0013: 5, L0664: 5, L0740: 5, S0360: 4, S0140: 4, H0616: 4, H0658: 4, L0602: 4, L0751: 4, L0747: 4, L0752: 4, L0759: 4, H0255: 3, S0132: 3, H0031: 3, H0553: 3, L0770: 3, L0665: 3, H0144: 3, H0520: 3, H0670: 3, S0206: 3, L0605: 3, S0114: 2, S0222: 2, H0455: 2, H0052: 2, H0150: 2, H0644: 2, S0426:		

171	HPKES05	827572	181	243 - 371	685	He-26 to Ala-42.	1, H0486: 1, H0546: 1, H0545: 1, H0083: 1, H0622: 1, H0674: 1, H0551: 1, L0761: 1, L0641: 1, L0659: 1, L0526: 1, L0518: 1, L0809: 1, H0696: 1, H0704: 1, H0694: 1, S0032: 1, L0750: 1, L0780: 1 and S0194: 1. L0777: 7, S0358: 5, L0439: 5, L0731: 5, H0135: 4, H0265: 3, H0556: 3, L0770: 3, L0769: 3, L0662: 3, L0731: 3, H0305: 2, H0546: 2, H0083: 2, L0142: 2, S0208: 2, S0002: 2, L0768: 2, L0663: 2, L0665: 2, H0521: 2, L0741: 2, L0747: 2, L0779: 2, H0543: 2, H0149: 1, H0657: 1, S0116: 1, S0001: 1, H0663: 1, S0356: 1, S0354: 1, H0580: 1, S0045: 1, H0549: 1, S6014: 1, H0309: 1, H0085: 1, H0234: 1, H0597: 1, H0544: 1, H0123: 1, H0012: 1, H0024: 1, H0356: 1, H0594: 1, T0006: 1, H0424: 1, H0644: 1, H0182: 1, H0617: 1, L0055: 1, H0673: 1, H0169: 1, H0038: 1, H0040: 1, H0100: 1, L0351: 1, T0041: 1, H0561: 1, H0132: 1, L0763: 1, L0638: 1, L0637: 1, L0372: 1, L0765: 1, L0648: 1, L0649: 1, L0774: 1, L0375: 1, L0807: 1, L0545: 1, L0529:
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172	HFKEU12	634006	182	6 - 173	686	Pro-18 to Thn-55.	1, L0788: 1, L0666: 1, L0664: 1, S0374: 1, H0691: 1, H0658: 1, H0670: 1, H0666: 1, S0044: 1, S0028: 1, L0744: 1, L0749: 1, L0755: 1, L0758: 1, H0445: 1, L0593: 1 and H0352: 1, AR060: 7, AR089: 4 H0012: 2
173	HFPCZ55	840840	183	676 - 810	687		L0756: 6, L0439: 4, L0777: 4, L0662: 3, H0672: 3, S0358: 2, L0659: 2, L0666: 2, S0031: 2, S0360: 1, H0411: 1, H0369: 1, S0222: 1, S0220: 1, S0005: 1, H0575: 1, T0082: 1, H0050: 1, S6028: 1, H0169: 1, H0100: 1, L0769: 1, L0774: 1, L0776: 1, L0647: 1, L0663: 1, H0660: 1, H0651: 1, S0146: 1, L0743: 1, L0757: 1, L0361: 1 and L0462: 1.
174	HFPDR62	839400	184	414 - 521	688		S0222: 2, S0114: 1, H0305: 1, H0449: 1 and T0039: 1, AR060: 37, AR089: 7
175	HFPDS07	821646	185	2546 - 2623	689		L0803: 19, L0439: 13, L0766: 5, L0804: 5, L0659: 4, L0751: 4, H0422: 4, S0222: 3, H0052: 3, H0622: 3, H0090: 3, L0774: 3, H0144: 3, H0656: 2, S0360: 2, H0486: 2, H0575: 2, L0775: 2, L0607: 2, L0790: 2, L0438: 2, S0126: 2, L0740: 2, L0752: 2, L0757: 2, L0758: 2, L0759: 2, S0418: 1, H0580: 1, H0590:

176	HFRAB10	745380	186	203 - 340	690	Thr-26 to Ala-31.	1, S0010: 1, S0346: 1, H0581: 1, S0049: 1, H0263: 1, H0572: 1, H0051: 1, H0275: 1, S0628: 1, H0179: 1, S0003: 1, H0252: 1, L0455: 1, H0400: 1, S0036: 1, H0591: 1, H0551: 1, H0264: 1, H0488: 1, H0056: 1, H0623: 1, L0351: 1, L0370: 1, S0002: 1, L0637: 1, L0646: 1, L0662: 1, L0647: 1, L0367: 1, L0666: 1, L0665: 1, S0216: 1, H0701: 1, H0648: 1, H0521: 1, H0522: 1, H0436: 1, L0748: 1, L0777: 1, L0755: 1, S0260: 1, H0445: 1, L0366: 1, S0196: 1, H0542: 1 and H0423: 1.		
177	HFTBM38	638338	187	577 - 669	691		AR060: 7, AR089: 5 L0439: 14, L0438: 6, L0794: 4, L0770: 3, S0222: 2, H0271: 2, L0776: 2, L0736: 2, L0758: 2, S0001: 1, S0278: 1, H0441: 1, S0010: 1, H0052: 1, S0050: 1, S0366: 1, T0042: 1, L0662: 1, S0428: 1, L0352: 1, H0547: 1 and L0780: 1. AR089: 4, AR060: 3 L0439: 14, H0052: 9, L0770: 3, H0544: 2, L0769: 2, L0438: 2, H0593: 2, L0742: 2, L0779: 2, L0758: 2, S0040: 1, H0581: 1, H0009: 1, H0567: 1, H0566: 1, H0123: 1, H0266: 1, H0687: 1, H0433: 1, H0100:		

178	HFTDH56	862021	188	67 - 99	692		1. S0002: 1, L0369: 1, L0640: 1, L0639: 1, L0637: 1, L0764: 1, L0521: 1, L0794: 1, L0803: 1, L0650: 1, L0653: 1, L0655: 1, L0647: 1, L0367: 1, L0790: 1, L0663: 1, L0665: 1, H0670: 1, S0406: 1, H0479: 1, L0743: 1, L0751: 1, L0747: 1, L0749: 1, L0757: 1, S0434: 1, H0665: 1 and H0352: 1. AR060: 10, AR089: 5 H0585: 13, L0750: 10, L0754: 7, L0777: 7, H0135: 6, L0747: 5, L0731: 5, H0617: 4, L0794: 4, L0803: 4, L0758: 4, L0759: 4, H0141: 3, H0046: 3, H0050: 3, H0620: 3, H0494: 3, L0770: 3, L0766: 3, L0775: 3, L0783: 3, H0539: 3, L0749: 3, H0550: 2, T0039: 2, H0013: 2, H0052: 2, H0039: 2, L0764: 2, L0809: 2, L0438: 2, H0547: 2, L0748: 2, L0755: 2, L0588: 2, L0605: 2, H0624: 1, H0584: 1, H0657: 1, H0341: 1, S0001: 1, H0484: 1, H0483: 1, H0637: 1, H0208: 1, S0045: 1, H0619: 1, H0393: 1, S0278: 1, H0069: 1, H0635: 1, H0618: 1, H0253: 1, H0581: 1, H0234: 1, H0123: 1, H0012: 1, H0024: 1, H0014: 1, S0388: 1, T0010: 1, H0594: 1.		
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179	HFVGK35	731868	189	14 - 31	693				H0687: 1, H0428: 1, H0628: 1, H0606: 1, H0673: 1, H0674: 1, H0124: 1, H0412: 1, S0144: 1, L0648: 1, L0774: 1, L0784: 1, L0776: 1, L0791: 1, H0144: 1, S0374: 1, H0519: 1, H0689: 1, H0666: 1, H0648: 1, S3012: 1, L0439: 1, L0361: 1, H0423: 1 and H0352: 1, AR089: 23, AR060: 12, S0040: 2, L0766: 2, L0665: 2, L0731: 2, L0758: 2, S0376: 1, H0393: 1, H0411: 1, H0333: 1, L0021: 1, H0373: 1, H0688: 1, L0142: 1, H0087: 1, H0551: 1, H0264: 1, H0494: 1, L0520: 1, L0769: 1, L0803: 1, L0664: 1, H0521: 1, H0436: 1, L0748: 1, L0747: 1, L0779: 1, L0759: 1 and H0217: 1
180	HFVHW43	570948	190	92 - 211	694				H0393: 1
181	HFVAV37	626595	191	163 - 273	695				AR089: 5, AR060: 3, S0002: 2, S0134: 1, S0001: 1 and L0589: 1
182	HFVBN86	866174	192	149 - 346	696			Gly-60 to Asp-65.	AR253: 9, AR252: 5, AR250: 4, AR060: 3, AR272: 3, AR264: 3, AR053: 2, AR254: 2, AR311: 2, AR263: 2, AR089: 2, AR201: 2, AR061: 2, AR197: 2, AR309: 1, AR213: 1, AR096: 1, AR104: 1, AR312: 1, S0001: 1

183	HEXBT66	580831	193	172 - 252	697		AR089: 61, AR060: 29 S0001: 1		
184	HPXFZ46	600361	194	258 - 278	698		AR060: 1 S0001: 1		
185	HGBER72	826710	195	43 - 102	699		AR089: 27, AR060: 15 L0766: 12, H0436: 9, H0543: 8, L0769: 6, L0749: 6, L0731: 6, H0556: 5, L0655: 5, L0439: 4, L0758: 4, S0114: 3, H0255: 3, L0776: 3, L0659: 3, L0783: 3, L0751: 3, H0423: 3, S0358: 2, S0360: 2, S0007: 2, H0549: 2, H0550: 2, H0486: 2, H0014: 2, S0388: 2, H0424: 2, H0031: 2, H0628: 2, L0771: 2, L0662: 2, L0794: 2, L0791: 2, L0438: 2, S0328: 2, L0740: 2, L0756: 2, H0265: 1, H0686: 1, S0134: 1, H0657: 1, H0656: 1, S0001: 1, S0418: 1, L0619: 1, H0619: 1, H0351: 1, S0222: 1, H0592: 1, H0586: 1, T0060: 1, H0250: 1, H0618: 1, H0318: 1, H0052: 1, H0251: 1, H0545: 1, H0012: 1, H0201: 1, S0628: 1, H0288: 1, H0622: 1, T0023: 1, L0483: 1, S0036: 1, H0135: 1, H0040: 1, H0264: 1, S0039: 1, L0640: 1, L0763: 1, L0770: 1, L0761: 1, L0648: 1, L0521: 1, L0533: 1, L0774: 1, L0775: 1, L0376: 1, L0378: 1, L0629: 1, L0793: 1, L0666: 1,		

186	HGBEY14	658691	196	233 - 352	700		L0664: 1, S0310: 1, H0689: 1, H0659: 1, H0660: 1, H0648: 1, H0696: 1, H0576: 1, S0028: 1, L0742: 1, L0750: 1, L0779: 1, L0777: 1, L0752: 1, L0591: 1, L0601: 1, H0542: 1 and H0506: 1.		
							AR089: 1, AR060: 1, L0766: 9, L0803: 8, L0777: 4, L0770: 3, H0411: 2, H0012: 2, L0809: 2, L0793: 2, L0747: 2, H0620: 1, H0014: 1, H0087: 1, H0272: 1, L0662: 1, L0794: 1, L0776: 1, L0791: 1, L0666: 1, L0665: 1, H0435: 1, H0627: 1, L0749: 1, L0779: 1, L0731: 1, L0758: 1, H0445: 1, S0026: 1 and H0667: 1.		
187	HGBGN34	648659	197	280 - 426	701	Asst-2 to Val-8.	AR060: 11, AR089: 6, L0747: 3, H0427: 2, H0662: 1, S0358: 1, H0492: 1, S0280: 1, T0001: 1, H0014: 1, H0030: 1, H0674: 1, L0776: 1, L0659: 1, S0330: 1, L0777: 1 and L0752: 1.		
188	HGBHP91	693011	198	50 - 208	702		AR089: 24, AR060: 15, H0014: 1		
189	HGCAC19	851527	199	317 - 346	703		L0794: 14, L0803: 12, L0766: 7, H0013: 6, H0090: 6, L0663: 6, L0777: 6, L0731: 6, L0759: 6, H0457: 5, H0328: 3, L0493: 3, L0666: 5, L0754: 5, L0749: 5, H0543: 5, H0656: 4.		

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S0358: 4, H0615: 4, L0665: 4, H0521: 4, L0779: 4, L0588: 4, H0305: 3, S0360: 3, H0036: 3, H0052: 3, T0042: 3, L0805: 3, L0809: 3, H0144: 3, H0670: 3, H0696: 3, L0591: 3, S0134: 2, H0657: 2, S0418: 2, S0442: 2, S0007: 2, S0045: 2, L0717: 2, H0600: 2, H0486: 2, H0156: 2, H0575: 2, H0590: 2, H0024: 2, S0022: 2, L0483: 2, H0135: 2, H0038: 2, H0560: 2, S0422: 2, L0457: 2, H0529: 2, L0625: 2, L0761: 2, L0648: 2, L0776: 2, L0655: 2, L0527: 2, S0374: 2, H0320: 2, H0519: 2, H0659: 2, H0436: 2, L0748: 2, L0745: 2, L0681: 2, L0361: 2, H0542: 2, H0423: 2, S0424: 2, H0624: 1, H0171: 1, H0556: 1, T0002: 1, H0686: 1, S0342: 1, H0717: 1, T0049: 1, S0430: 1, H0650: 1, H0341: 1, H0663: 1, H0589: 1, S0356: 1, S0376: 1, S0408: 1, S0410: 1, H0329: 1, S0046: 1, H0645: 1, H0369: 1, S0014: 1, H0370: 1, H0455: 1, H0438: 1, H0602: 1, H0586: 1, H0587: 1, H0574: 1, H0559: 1, S0280: 1, L0021: 1, H0318: 1, S0474: 1, H0263: 1, T0115: 1, H0545: 1, L0157: 1, H0123: 1.					
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193	HHEGSS5	858372	203	159 - 269	707			L0749: 2, L0596: 2, H0265: 1, S0444: 1, H0318: 1, H0597: 1, H0050: 1, H0024: 1, H0135: 1, H0090: 1, H0038: 1, H0616: 1, H0494: 1, L0065: 1, S0422: 1, H0529: 1, L0637: 1, L0764: 1, L0768: 1, L0794: 1, L0387: 1, L0803: 1, L0788: 1, L0790: 1, L0664: 1, L0438: 1, H0555: 1, L0780: 1, L0731: 1, H0444: 1, H0542: 1, H0543: 1 and H0423: 1.	
194	HHEOW19	886174	204	183 - 377	708	Ala-41 to Pro-37.		AR089: 37, AR060: 16, H0542: 5, AR207: 25, AR089: 25, AR308: 25, AR263: 24, AR264: 24, AR311: 21, AR213: 19, AR312: 18, AR212: 18, AR309: 17, AR272: 17, AR060: 15, AR053: 15, AR104: 14, AR096: 14, AR197: 13, AR246: 11, AR198: 10, AR245: 10, AR252: 10, AR205: 10, AR201: 9, AR253: 9, AR033: 9, AR243: 8, AR271: 8, AR254: 8, AR039: 7, AR204: 6, AR055: 6, AR250: 5, AR061: 4, L0745: 5, L0748: 4, H0031: 3, L0775: 3, L0776: 3, L0758: 3, H0458: 2, H0050: 2, S0003: 2, H0529: 2, L0764: 2, L0747: 2, L0598: 2, L0362: 2, H0556:	

195	HUFTT87	778071	205	229 - 354	709	Ser-5 to Gly-11, Pro-25 to Tyr-31.	I, S0116: 1, S0282: 1, H0662: 1, H0305: 1, S0420: I, S0444: 1, H0329: 1, H0351: 1, H0411: 1, S0278: I, H0438: 1, T0039: 1, H0635: 1, H0156: 1, H0235: I, H0327: 1, L0471: 1, H0428: 1, H0644: 1, H0032: I, S0366: 1, H0038: 1, H0616: 1, T0067: 1, H0477: I, H0059: 1, H0560: 1, H0625: 1, L0769: 1, L0761: I, L0667: 1, L0771: 1, L0662: 1, L0806: 1, L0655: I, L0809: 1, L0789: 1, L0790: 1, L0665: 1, S0052: I, H0144: 1, H0520: 1, H0547: 1, H0519: 1, H0435: I, H0539: 1, S0044: 1, S0392: 1, S0027: 1, L0754: I, L0749: 1, L0750: 1, L0779: 1, L0752: 1, L0755: I, L0759: 1, S0434: 1, L0608: 1, H0543: 1 and S0452: 1.		
							AR089: 35, AR263: 26, AR060: 25, AR310: 23, AR265: 23, AR213: 23, AR033: 21, AR053: 19, AR312: 18, AR096: 17, AR052: 17, AR055: 17, AR309: 16, AR253: 15, AR251: 14, AR249: 14, AR248: 14, AR205: 11, AR061: 10, AR244: 9, AR039: 8, AR206: 7, AR246: 7, AR273: 6, AR202: 6, AR194: 5,		

Critical Path

AR271: 5, AR198: 5, AR186: 4, AR104: 3, AR243: 3 L0748: 20, L0747: 14, L0749: 13, L0731: 13, L0766: 12, H0536: 9, L0771: 9, L0754: 8, H0039: 7, H0551: 7, L0666: 7, L0751: 7, L0755: 7, H0156: 6, L0775: 6, L0809: 6, L0663: 6, L0439: 6, S0354: 5, S0045: 5, H0013: 5, H0024: 5, H0494: 5, L0783: 5, L0663: 5, S0380: 5, H0521: 5, L0750: 5, L0759: 5, H0624: 4, H0661: 4, S0418: 4, S0360: 4, H0333: 4, S0010: 4, H0597: 4, H0413: 4, L0769: 4, L0637: 4, L0662: 4, L0649: 4, L0776: 4, L0659: 4, H0520: 4, L0742: 4, L0745: 4, L0752: 4, L0596: 4, L0591: 4, H0295: 3, S0356: 3, S0358: 3, H0637: 3, H0318: 3, H0552: 3, H0545: 3, L0471: 3, H0328: 3, H0428: 3, H0622: 3, H0553: 3, H0038: 3, H0633: 3, L0794: 3, L0438: 3, H0519: 3, H0638: 3, L0740: 3, L0777: 3, L0757: 3, L0758: 3, H0170: 2, H0265: 2, H0638: 2, S0420: 2, L0717: 2, S0222: 2, H0586: 2, H0331: 2, H0486: 2, H0581: 2, H0327: 2, H0046: 2, H0012: 2, H0620: 2, H0014: 2,
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	H0051: 2, H0266: 2, S0214: 2, H0615: 2, H0030: 2, H0617: 2, H0673: 2, H0135: 2, H0063: 2, T0067: 2, H0264: 2, H0412: 2, H0529: 2, L0770: 2, L0761: 2, L0646: 2, L0803: 2, L0655: 2, S0374: 2, H0547: 2, S0126: 2, H0660: 2, H0522: 2, H0696: 2, S0037: 2, S3014: 2, S0027: 2, L0588: 2, S0192: 2, H0542: 2, H0422: 2, H0171: 1, H0685: 1, S0040: 1, S0114: 1, S0134: 1, H0657: 1, H0341: 1, S0212: 1, S0001: 1, H0483: 1, H0669: 1, H0662: 1, H0125: 1, S0376: 1, H0676: 1, H0580: 1, H0208: 1, S0046: 1, H0619: 1, H0645: 1, H0393: 1, S6014: 1, H0370: 1, H0357: 1, H0415: 1, H0497: 1, H0642: 1, H0632: 1, H0635: 1, H0002: 1, H0599: 1, H0042: 1, H0575: 1, S0346: 1, T0048: 1, H0204: 1, H0041: 1, H0009: 1, H0050: 1, H0373: 1, L0163: 1, S0051: 1, H0083: 1, H0355: 1, H0594: 1, H0271: 1, H0416: 1, H0687: 1, H0290: 1, H0284: 1, S0314: 1, H0688: 1, T0023: 1, L0483: 1, H0644: 1, H0628: 1, H0181: 1, H0090: 1, H0591: 1, H0040: 1, H0268: 1, H0059: 1, H0100: 1, L0564: 1,
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196	HHFTL34	753230	206	42 - 713	710	Asn-146 to Arg-157, Leu-168 to Asn-183, Gln-189 to Asn-199, Gln-206 to Ser-217.	<p>S0440: 1, S0150: 1, H0130: 1, H0647: 1, H0646: 1, S0422: 1, L0520: 1, L0638: 1, L0796: 1, L0764: 1, L0521: 1, L0363: 1, L0768: 1, L0650: 1, L0774: 1, L0375: 1, L0651: 1, L0806: 1, L0606: 1, L0656: 1, L0382: 1, L0529: 1, L0788: 1, L0664: 1, S0428: 1, H0144: 1, H0702: 1, L0352: 1, H0690: 1, H0435: 1, H0670: 1, H0666: 1, H0672: 1, H0651: 1, S0330: 1, H0539: 1, S0152: 1, H0704: 1, S0406: 1, H0436: 1, S0206: 1, L0744: 1, L0756: 1, L0779: 1, L0753: 1, H0445: 1, H0343: 1, L0592: 1, L0485: 1, L0581: 1, L0608: 1, L0366: 1, H0653: 1, S0194: 1, S0276: 1 and H0543: 1.</p> <p>AR263: 3, AR248: 3, AR309: 2, AR310: 2, AR206: 1, AR055: 1, AR186: 1, AR205: 1, H0599: 3, L0766: 3, S0037: 3, H0556: 2, H0242: 2, H0620: 2, H0543: 2, H0170: 1, T0002: 1, H0300: 1, S0360: 1, S0045: 1, S0476: 1, H0549: 1, H0309: 1, H0545: 1, H0081: 1, H0050: 1, S0388: 1, H0644: 1, T0041: 1, S0144: 1, H0529: 1, H0026: 1, L0659: 1, H0520: 1, S0126: 1, H0539:</p>
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197	HHFTS40	824059	207	37 - 180	711	<p>1, L0602: 1, S0152: 1, S0044: 1, H0436: 1, S014: 1, S0027: 1, L0779: 1, L0731: 1 and S0424: 1, AR089: 13, AR060: 8 H0521: 8, L0748: 6, L0591: 6, L0766: 5, L0754: 5, H0069: 4, H0032: 4, L0803: 4, L0602: 4, H0423: 4, H0556: 3, H0657: 3, S0046: 3, H0013: 3, H0596: 3, H0046: 3, H0620: 3, H0355: 3, S0003: 3, H0622: 3, H0169: 3, H0674: 3, H0100: 3, L0662: 3, L0794: 3, L0526: 3, H0670: 3, L0740: 3, L0759: 3, S0134: 2, S0212: 2, H0661: 2, S0420: 2, H0580: 2, H0052: 2, H0050: 2, L0471: 2, H0266: 2, H0090: 2, H0038: 2, H0488: 2, L0564: 2, H0529: 2, L0769: 2, L0667: 2, L0771: 2, L0521: 2, L0804: 2, L0384: 2, L0809: 2, L0665: 2, H0659: 2, S0152: 2, S0044: 2, L0743: 2, L0750: 2, L0731: 2, L0592: 2, L0599: 2, L0608: 2, L0362: 2, H0171: 1, H0686: 1, H0656: 1, H0663: 1, H0662: 1, H0402: 1, S0356: 1, S0444: 1, S0132: 1, H0549: 1, H0550: 1, S0222: 1, H0574: 1, H0632: 1, H0486: 1, T0082: 1, H0581: 1, S0049: 1, H0194: 1, H0309: 1, H0123: 1,</p>
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198	HHGCS78	634605	208	290 - 364	712		<p>H0373: 1, H0510: 1, S6028: 1, H0615: 1, L0483: 1, H0031: 1, H0644: 1, L0143: 1, H0628: 1, H0135: 1, H0163: 1, H0591: 1, H0616: 1, H0551: 1, L0067: 1, H0412: 1, H0059: 1, H0494: 1, S0382: 1, S0306: 1, S0450: 1, H0509: 1, H0641: 1, H0647: 1, H0646: 1, S0002: 1, L0520: 1, L0763: 1, L0770: 1, L0637: 1, L0373: 1, L0363: 1, L0775: 1, L0375: 1, L0651: 1, L0805: 1, L0655: 1, L0661: 1, L0527: 1, L0656: 1, L0659: 1, L0518: 1, L0532: 1, L0663: 1, L0664: 1, H0699: 1, S0374: 1, H0593: 1, H0682: 1, H0658: 1, H0660: 1, H0672: 1, H0539: 1, S0406: 1, H0478: 1, L0744: 1, L0439: 1, L0747: 1, L0779: 1, L0777: 1, L0758: 1, L0480: 1, L0589: 1, L0595: 1, L0601: 1, H0667: 1, S0192: 1, S0194: 1, S0196: 1, H0422: 1 and S0424: 1.</p> <p>AR089: 48, AR060: 31, L0770: 4, H0333: 3, L0783: 2, L0731: 2, H0445: 2, S0418: 1, S0002: 1, L0369: 1, L0643: 1, L0764: 1, L0794: 1, L0803: 1, L0775: 1, L0375: 1, L0378: 1, L0655: 1, L0809: 1, L0666: 1, L0664: 1, L0754:</p>
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199	HHGDT26	658692	209	181 - 207	713		1, L0747: 1, L0749: 1, L0752: 1 and L0591: 1, L0748: 2, S0218: 1, H0333: 1, H0271: 1, S0210: 1, L0776: 1, S0188: 1, L0745: 1 and H0423: 1		
200	HHPTU28	824573	210	156 - 239	714	Ser 12 to Tyr-17.	AR089: 5, AR060: 5 L0622: 2, L0518: 2, L0382: 2, L0663: 2, L0750: 2, L0752: 2, L0362: 2, S0114: 1, S0420: 1, S0354: 1, S0222: 1, S0010: 1, H0046: 1, H0051: 1, L0483: 1, H0644: 1, H0412: 1, H0529: 1, L0794: 1, L0561: 1, L0666: 1, S0330: 1, S0028: 1, L0779: 1, L0777: 1, L0758: 1, S0031: 1, H0444: 1 and L0592: 1		
201	HHPSA85	658695	211	157 - 273	715		AR060: 5, AR089: 4 L0736: 3, H0051: 4, L0438: 4, L0759: 4, S0031: 4, S0007: 3, S6028: 3, L0666: 3, L0439: 3, H0356: 2, S6024: 2, S0300: 2, H0013: 2, S0036: 2, L0770: 2, L0411: 1, L0393: 1, H0393: 1, H0581: 1, H0235: 1, H0327: 1, H0046: 1, H0009: 1, L0157: 1, H0201: 1, S0051: 1, H0399: 1, H0064: 1, H0038: 1, H0040: 1, H0634: 1, H0100: 1, L0638: 1, L0796: 1, L0768: 1, L0794: 1, L0766: 1, L0803: 1, L0606: 1, L0791: 1, L0792: 1, H0144: 1, H0698: 1, H0547: 1, H0519:		

203	HHSB165	801910	213	62-229	717	Ala-16 to Val-35.	1, H0622: 1, T0006: 1, H0030: 1, H0031: 1, H0644: 1, L0055: 1, H0124: 1, H0163: 1, H0038: 1, H0040: 1, H0616: 1, H0551: 1, H0264: 1, H0102: 1, S0112: 1, L0564: 1, H0280: 1, H0494: 1, H0561: 1, S0002: 1, L0763: 1, L0769: 1, L0761: 1, L0800: 1, L0642: 1, L0644: 1, L0645: 1, L0648: 1, L0662: 1, L0363: 1, L0775: 1, L0375: 1, L0651: 1, L0784: 1, L0806: 1, L0653: 1, L0658: 1, L0540: 1, L5622: 1, L0368: 1, L0665: 1, S0374: 1, H0723: 1, L0438: 1, H0547: 1, H0648: 1, H0672: 1, S0328: 1, H0753: 1, H0522: 1, S0406: 1, H0436: 1, S0392: 1, H0626: 1, L0759: 1, S0031: 1, H0445: 1, S0434: 1, S0436: 1, L0596: 1, L0588: 1, S0192: 1, H0423: 1, S0424: 1 and H0352: 1.		
							AR207: 7, AR198: 7, AR204: 6, AR039: 6, AR053: 6, AR250: 5, AR264: 5, AR055: 5, AR096: 5, AR309: 5, AR060: 5, AR061: 5, AR201: 5, AR311: 4, AR252: 4, AR213: 4, AR253: 4, AR212: 4, AR312: 4, AR263: 4, AR205: 4, AR271: 3,		

204	HHSD153	862028	214	221 - 295	718	<p>AR033: 3, AR246: 3, AR308: 3, AR089: 3, AR272: 3, AR104: 3, AR197: 3, AR243: 2 L0439: 7, L0794: 5, L0766: 5, S0354: 2, H0549: 2, S0051: 2, S0142: 2, L0372: 2, L0809: 2, L0438: 2, H0658: 2, H0650: 1, H0381: 1, S0116: 1, S0356: 1, S0360: 1, H0261: 1, H0586: 1, H0486: 1, H0036: 1, H0052: 1, L0738: 1, H0457: 1, H0014: 1, H0051: 1, H0617: 1, H0032: 1, H0561: 1, H0633: 1, L0763: 1, L0761: 1, L0800: 1, L0644: 1, L0645: 1, L0764: 1, L0648: 1, L0655: 1, L0657: 1, L0658: 1, L0368: 1, L0665: 1, S0044: 1, H0626: 1, L0731: 1, S0434: 1, H0653: 1 and H0423: 1, AR089: 19, AR060: 11 L0766: 10, L0752: 8, L0439: 6, L0747: 6, L0740: 5, L0756: 5, L0779: 4, L0777: 4, L0731: 4, S0051: 3, L0803: 3, L0774: 3, L0809: 3, L0754: 3, S0360: 2, S0408: 2, H0574: 2, L0763: 2, L0805: 2, L0663: 2, L0751: 2, L0755: 2, L0759: 2, L0601: 2, H0624: 1, S0040: 1, H0713: 1, S0298: 1, S0420: 1, S0444: 1, H0580: 1, H0351: 1, H0600: 1, H0331: 1, H0013:</p>
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205	HHISFC09	801911	215	380 - 478	719		<p>1, L0021: 1, H0575: 1, H0590: 1, T0110: 1, H0012: 1, H0615: 1, H0031: 1, H0553: 1, S0036: 1, H0591: 1, S0440: 1, H0646: 1, S0002: 1, L0772: 1, L0645: 1, L0773: 1, L0662: 1, L0794: 1, L0381: 1, L0775: 1, L0776: 1, L0657: 1, L0659: 1, L0528: 1, L0790: 1, L0666: 1, H0547: 1, H0648: 1, H0539: 1, S0152: 1, H0696: 1, S0044: 1, S0406: 1, S0028: 1, L0758: 1, S0434: 1, S0436: 1, L0366: 1, S0011: 1, S0276: 1, H0422: 1 and S0424: 1, L0752: 6, L0758: 4, L0662: 3, L0776: 3, L0666: 3, L0750: 3, L0755: 3, H0657: 2, H0597: 2, H0150: 2, H0081: 2, S0388: 2, H0213: 2, H0617: 2, L0770: 2, L0764: 2, L0775: 2, L0657: 2, L0659: 2, L0439: 2, L0740: 2, L0751: 2, L0747: 2, H0543: 2, H0624: 1, H0265: 1, H0254: 1, H0638: 1, H0586: 1, S0280: 1, H0618: 1, H0581: 1, H0309: 1, H0544: 1, L0471: 1, H0024: 1, S0051: 1, H0688: 1, H0424: 1, H0644: 1, L0055: 1, H0100: 1, L0351: 1, H0396: 1, S0144: 1, L0769: 1, L0638: 1, L0643: 1, L0773: 1, L0648: 1, L0766: 1, L0381: 1, L0806:</p>
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206	HHSEL28	801912	216	453 - 473	720		1, L0655: 1, L0606: 1, L0663: 1, H0144: 1, H0520: 1, H0651: 1, L0743: 1, L0731: 1, L0605: 1, L0591: 1, L0592: 1 and H0542: 1, L0439: 8, L0438: 3, S0440: 2, L0666: 2, H0170: 1, S0442: 1, H0318: 1, S0049: 1, H0052: 1, H0050: 1, H0057: 1, S0388: 1, S0214: 1, H0598: 1, S0036: 1, H0063: 1, H0551: 1, L0520: 1, L0796: 1, L0662: 1, L0766: 1, L0664: 1, H0547: 1, H0435: 1, H0521: 1, L0779: 1, L0777: 1, L0752: 1 and L0594: 1.
207	HILCA24	782450	217	189 - 1172	721	Gln-52 to Arg-57, Glu-74 to Leu-84, Val-104 to Asp-110, Gly-157 to Gly-163, Asn-185 to Ser-195, Arg-245 to Asp-250, Pro-302 to Pro-310, Thr-316 to Tyr-322.	L0748: 4, H0090: 2, L0659: 2, H0521: 2, L0777: 2, L0608: 2, H0543: 2, T0002: 1, S0114: 1, S0358: 1, T0109: 1, H0581: 1, H0622: 1, H0031: 1, H0644: 1, S0002: 1, L0526: 1, S0380: 1, H0522: 1, L0749: 1 and L0779: 1.
208	HILCA24	869856	218	191 - 1174	722	Gln-52 to Arg-57, Glu-74 to Leu-84, Val-104 to Asp-110, Gly-157 to Gly-163, Asn-185 to Ser-195, Arg-245 to Asp-250, Pro-302 to Pro-310, Thr-316 to Tyr-322.	L0748: 4, H0090: 2, L0659: 2, H0521: 2, L0777: 2, L0608: 2, H0543: 2, T0002: 1, S0114: 1, S0358: 1, T0109: 1, H0581: 1, H0622: 1, H0031: 1, H0644: 1, S0002: 1, L0526: 1, S0380: 1, H0522: 1, L0749: 1 and L0779: 1.
209	HISAT67	843549	219	1239 - 1409	723		AK089: 11, AK060: 6 L0751: 8, L0754: 6, L0731: 6, L0766: 5, L0439: 5.

210	HIBC075	638329	220	61 - 78	724	L0750: 5, L0770: 4, L0666: 4, L0776: 3, L0665: 3, S0356: 2, S0438: 2, L0769: 2, L0659: 2, L0663: 2, S0406: 2, L0748: 2, L0749: 2, T0002: 1, S0360: 1, H0607: 1, H0574: 1, H0632: 1, L0021: 1, H0599: 1, H0318: 1, L0738: 1, H0178: 1, H0059: 1, T0041: 1, L0763: 1, L0638: 1, L5565: 1, L0772: 1, L0373: 1, L0764: 1, L0662: 1, L0626: 1, L0363: 1, L0650: 1, L0774: 1, L0806: 1, L0654: 1, L0789: 1, L0664: 1, S0374: 1, H0659: 1, H0670: 1, H0539: 1, L0740: 1, L0746: 1, L0752: 1, L0755: 1, L0757: 1, L0584: 1, L0596: 1, L0608: 1 and H0352: 1.		
						AR186: 10, AR244: 10, AR273: 8, AR052: 7, AR202: 7, AR206: 6, AR272: 6, AR264: 6, AR039: 6, AR055: 6, AR061: 6, AR309: 5, AR310: 5, AR060: 5, AR246: 4, AR311: 4, AR312: 4, AR249: 4, AR204: 4, AR213: 4, AR096: 4, AR089: 4, AR194: 4, AR033: 3, AR104: 3, AR251: 3, AR265: 3, AR243: 3, AR271: 3, AR263: 3, AR198: 2, AR308: 2,		

211	H1MAA03	824062	221	527 - 556	725		AR053: 2, AR205: 2, AR201: 1 S0022: 7, L0805: 3, H0556: 2, H0046: 2, L0764: 2, L0662: 2, S0126: 2, L0748: 2, H0305: 1, H0013: 1, H0050: 1, H0615: 1, H0039: 1, H0040: 1, H0087: 1, T0042: 1, L0643: 1, L0794: 1, L0803: 1, L0804: 1, L0807: 1, L0809: 1, L0666: 1, H0144: 1, H0547: 1, L0749: 1, L0779: 1 and L0758: 1.	
							AR207: 12, AR309: 11, AR252: 10, AR053: 9, AR212: 9, AR213: 8, AR198: 8, AR253: 8, AR263: 7, AR245: 7, AR264: 7, AR197: 7, AR311: 7, AR308: 6, AR096: 6, AR312: 6, AR205: 6, AR246: 6, AR039: 5, AR089: 5, AR201: 5, AR272: 5, AR204: 5, AR271: 5, AR250: 5, AR033: 4, AR243: 4, AR254: 4, AR055: 4, AR104: 3, AR060: 3, AR061: 3, L0749: 8, L0777: 6, L0803: 5, L0748: 5, H0486: 4, H0135: 4, L0794: 4, L0766: 4, L0804: 4, H0551: 3, L0754: 3, L0599: 3, H0542: 3, H0427: 2, H0545: 2, H0674: 2, L0774: 2, L0776: 2, L0655: 2, H0521: 2.	

212	HIMAV41	862029	222	207 - 290	726	<p> 1, L0439: 2, L0752: 2, L0731: 2, L0596: 2, H0556: 1, H0713: 1, H0483: 1, H0663: 1, S0358: 1, H0580: 1, H0329: 1, S0045: 1, H0453: 1, H0706: 1, S0346: 1, H0544: 1, H0150: 1, H0123: 1, L0471: 1, L0163: 1, H0051: 1, H0275: 1, S0003: 1, S0214: 1, H0628: 1, H0090: 1, H0040: 1, H0087: 1, T0067: 1, H0412: 1, H0494: 1, H0509: 1, H0633: 1, H0647: 1, S0344: 1, L0769: 1, L0637: 1, L0761: 1, L0772: 1, L0800: 1, L0374: 1, L0764: 1, L0771: 1, L0363: 1, L0768: 1, L0806: 1, L0382: 1, L0809: 1, L0545: 1, L0789: 1, L0666: 1, H0659: 1, S0404: 1, L0751: 1, L0747: 1, L0750: 1, L0779: 1, S0436: 1, L0608: 1, S0276: 1, H0543: 1, H0506: 1 and H0352: 1. AR089: 9, AR060: 7, L0742: 15, L0439: 7, S0007: 5, H0135: 4, L0741: 4, L0516: 2, H0052: 2, L0438: 2, L0759: 2, L0426: 1, H0402: 1, H0351: 1, S0222: 1, H0441: 1, H0333: 1, H0545: 1, S0388: 1, S0038: 1, L0351: 1, L0370: 1, L0770: 1, L0769: 1, L0805: 1, L0659: 1, L0792: 1, H0547: 1, L0750: 1, </p>
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213	HIMAY90	793678	223	2492 - 2596	727	L0366: 1, H0008: 1 and H0352: 1 AR089: 20, AR060: 11 S0027: 12, H0046: 11, L0777: 9, L0757: 9, L0764: 8, L0809: 7, L0747: 6, H0620: 5, S3014: 5, L0748: 5, L0751: 5, L0731: 5, H0341: 4, H0674: 4, H0135: 4, L0783: 4, L0666: 4, S0206: 4, L0891: 4, S0045: 3, H0619: 3, H0550: 3, H0581: 3, S0002: 3, L0770: 3, L0372: 3, L0662: 3, L0775: 3, L0518: 3, H0658: 3, S0028: 3, L0804: 3, H0638: 2, S0356: 2, S0360: 2, H0013: 2, S0474: 2, H0196: 2, H0597: 2, H0012: 2, H0039: 2, H0622: 2, H0040: 2, H0100: 2, H0560: 2, S0150: 2, L0769: 2, L0761: 2, L0766: 2, L0804: 2, L0663: 2, H0520: 2, S0126: 2, H0521: 2, S3012: 2, L0439: 2, L0750: 2, L0779: 2, L0759: 2, L0600: 2, L0615: 1, S6024: 1, H0295: 1, H0656: 1, S0001: 1, H0484: 1, S0358: 1, S0376: 1, H0580: 1, S0476: 1, H0393: 1, S0222: 1, H0455: 1, H0586: 1, H0587: 1, H0497: 1, H0574: 1, H0632: 1, H0427: 1, S0280: 1, H0599: 1, H0575: 1, H0036: 1, H0318: 1, H0052: 1, H0085: 1, H0263: 1,
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214	HIPB39	801960	224	170 - 226	728	H0231: 1, H0546: 1, H0545: 1, H0457: 1, H0086: 1, H0041: 1, H0009: 1, H0123: 1, H0083: 1, H0271: 1, H0687: 1, H0284: 1, S0022: 1, H0252: 1, H0615: 1, H0029: 1, H0032: 1, H0673: 1, H0598: 1, H0063: 1, H0056: 1, L0564: 1, L0475: 1, H0131: 1, H0641: 1, H0646: 1, H0652: 1, S0426: 1, H0529: 1, L0640: 1, L0638: 1, L0667: 1, L0772: 1, L0800: 1, L0771: 1, L0768: 1, L0784: 1, L0805: 1, L0655: 1, L0659: 1, L0517: 1, L0526: 1, S0052: 1, L0438: 1, H0547: 1, H0682: 1, S0328: 1, S0330: 1, H0539: 1, S0380: 1, H0518: 1, S0152: 1, H0631: 1, L0611: 1, S0037: 1, L0740: 1, L0786: 1, L0752: 1, L0758: 1, H0707: 1, S0434: 1, S0436: 1, L0605: 1, L0599: 1, L0595: 1, S0011: 1, S0026: 1, S0196: 1 and: 1.		
						AR061: 8, AR089: 6, AR055: 5, AR309: 5, AR312: 5, AR104: 4, AR060: 4, AR205: 4, AR243: 4, AR204: 4, AR311: 4, AR254: 3, AR250: 3, AR264: 3, AR201: 3, AR053: 3, AR096: 3, AR308: 3, AR197: 3, AR213: 3,		

215	HIPBK28	638191	225	256 - 387	729	<p>AR253: 3, AR263: 3, AR246: 3, AR033: 3, AR212: 3, AR039: 2, AR271: 2, AR207: 2, AR272: 2, AR198: 1 H0494: 2, L0804: 2, H0518: 2, H0170: 1, H0650: 1, H0402: 1, S0420: 1, H0580: 1, S0007: 1, S0046: 1, H0393: 1, L0717: 1, H0497: 1, H0559: 1, H0013: 1, H0599: 1, T0048: 1, H0318: 1, H0052: 1, H0309: 1, H0046: 1, H0083: 1, S0214: 1, T0042: 1, H0429: 1, H0625: 1, S0352: 1, H0538: 1, H0529: 1, L0520: 1, L0662: 1, L0653: 1, L0663: 1, T0068: 1, H0684: 1, H0435: 1, H0672: 1, H0555: 1, S3012: 1, L0439: 1, L0779: 1, L0777: 1, L0758: 1, L0759: 1, S0436: 1, L0896: 1, L0891: 1, H0542: 1, H0543: 1 and H0422: 1.</p>
						<p>L0439: 5, L0759: 5, H0556: 4, L0771: 4, H0144: 4, L0770: 3, L0643: 3, L0794: 3, H0156: 2, H0188: 2, H0090: 2, H0641: 2, L0662: 2, L0766: 2, L0803: 2, L0776: 2, L0659: 2, L0790: 2, H0522: 2, S0027: 2, H0295: 1, T0049: 1, S0116: 1, H0663: 1, H0662: 1, S0356: 1, S0376: 1, S0132: 1, H0586: 1, H0587:</p>

216	H1PCH08	840365	226	374 - 727	730	<p> 1, H0486: 1, H0575: 1, H0309: 1, H0231: 1, H0083: 1, H0271: 1, H0286: 1, H0622: 1, H0031: 1, L0455: 1, H0068: 1, H0063: 1, H0551: 1, H0264: 1, H0268: 1, T0041: 1, H0494: 1, H0633: 1, L0637: 1, L0800: 1, L0775: 1, L0806: 1, L0661: 1, L0383: 1, L0809: 1, L0666: 1, L0663: 1, L0664: 1, H0519: 1, H0593: 1, H0435: 1, H0672: 1, H0521: 1, H0436: 1, L0740: 1, L0749: 1, L0731: 1, L0757: 1, L0758: 1, H0136: 1, H0423: 1 and S0446: 1, AR060: 6, AR089: 4 L0758: 8, L0771: 7, H0618: 6, L0749: 6, L0774: 4, L0748: 4, L0750: 4, S0418: 3, S0358: 3, H0266: 3, L0770: 3, L0766: 3, S0360: 2, H0150: 2, H0087: 2, L0369: 2, L0769: 2, L0771: 2, L0789: 2, L0665: 2, L0759: 2, H0422: 2, H0556: 1, H0295: 1, H0370: 1, H0331: 1, H0013: 1, L0021: 1, L0022: 1, H0253: 1, H0052: 1, H0204: 1, H0544: 1, H0012: 1, H0620: 1, H0024: 1, H0083: 1, H0510: 1, H0416: 1, H0252: 1, H0424: 1, H0617: 1, L0564: 1, H0494: 1, S0144: 1, L0372: 1, L0646: 1, L0800: 1, L0641: 1, L0764: </p>
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217	HKABU43	838573	227	755 - 1600	731	Ile-69 to Ala-74, Ala-122 to Ser-129, Thr-160 to Glu-170, Lys-197 to Arg-202.	<p>1, L0649: 1, L0803: 1, L0775: 1, L0776: 1, L0655: 1, L0659: 1, L0809: 1, L0666: 1, L0664: 1, H0144: 1, H0521: 1, H0436: 1, S3012: 1, L0747: 1, L0786: 1, L0757: 1, L0608: 1, L0595: 1 and H0543: 1.</p> <p>L0794: 7, L0803: 3, H0052: 2, S0250: 2, H0032: 2, H0494: 2, H0529: 2, L0666: 2, L0663: 2, L0747: 2, L0759: 2, H0657: 1, H0664: 1, H0662: 1, S0442: 1, H0733: 1, S0046: 1, H0640: 1, H0331: 1, H0559: 1, T0039: 1, H0013: 1, S0280: 1, H0318: 1, T0110: 1, H0024: 1, S0364: 1, H0591: 1, H0038: 1, H0040: 1, S0142: 1, L0640: 1, L0667: 1, L0764: 1, L0662: 1, L0804: 1, L0659: 1, L0517: 1, L0789: 1, L4559: 1, L0664: 1, S0126: 1, H0435: 1, H0539: 1, S0152: 1, H0521: 1, H0522: 1, S0027: 1, L0779: 1, L0758: 1, L0485: 1, L0601: 1, S0026: 1, H0667: 1, S0192: 1, H0542: 1 and H0506: 1.</p>
218	HKACI79	853361	228	207 - 359	732	Ser-37 to Gly-43.	<p>AK089: 31, AR060: 9 H0659: 2, S0418: 1, L0004: 1, H0041: 1, H0087: 1, H0494: 1, H0646: 1, S0422: 1, L0373: 1, L0766: 1, L0665: 1, S0380: 1, L0748: 1, L0740: 1 and L0589: 1.</p>

219	HKAF50	790192	229	343 - 495	733	Leu-19 to Gln-29.	AR039: 18, AR271: 17, AR205: 15, AR263: 15, AR265: 14, AR194: 13, AR273: 12, AR310: 12, AR213: 11, AR202: 11, AR053: 11, AR052: 11, AR312: 10, AR089: 10, AR104: 10, AR246: 10, AR033: 10, AR096: 9, AR251: 9, AR243: 9, AR206: 8, AR309: 8, AR249: 6, AR248: 6, AR244: 6, AR198: 6, AR055: 6, AR060: 5, AR204: 5, AR186: 5, AR253: 5, AR061: 4, S0114: 1, S0354: 1, S0046: 1, H0392: 1, H0616: 1, H0494: 1, H0561: 1, H0539: 1, L0602: 1, L0740: 1 and S0424: 1.	
220	HKGBF25	738797	230	261 - 371	734		AR089: 6, AR060: 2 H0538: 1	
221	HKIXC44	716213	231	572 - 682	735		AR060: 9, AR089: 7 L0770: 7, L0742: 5, L0439: 4, L0776: 3, S0358: 2, H0619: 2, S0222: 2, L0769: 2, L0638: 2, L0796: 2, L0805: 2, H0593: 2, L0753: 2, L0485: 2, L0608: 2, H0329: 1, H0351: 1, H0441: 1, H0611: 1, H0370: 1, H0013: 1, H0196: 1, H0052: 1, H0251: 1, H0041: 1, H0024: 1, H0622: 1, S0366: 1, H0623: 1, L0648: 1, L0623: 1, L0806: 1, L0788: 1, L0666: 1, L0663: 1.	

222	HKMLK03	734213	232	214 - 249	736	H0648: 1, H0639: 1, S0152: 1, L0612: 1, L0777: 1, L0599: 1 and S0242: 1, H0431: 1, L0352: 1, H0478: 1 and H0445: 1,		
223	HKMLM95	840367	233	390 - 404	737	AR060: 13, AR089: 13, L0748: 7, L0740: 6, L0754: 6, S0474: 5, L0439: 5, L0747: 5, S0003: 4, L0770: 4, L0662: 4, L0805: 4, S0134: 3, H0638: 3, S0222: 3, L0764: 3, L0783: 3, L0731: 3, L0758: 3, S0358: 2, S0045: 2, H0050: 2, L0471: 2, S0364: 2, H0591: 2, H0264: 2, L0763: 2, L0794: 2, L0766: 2, L0657: 2, L0517: 2, H0723: 2, H0521: 2, L0756: 2, L0757: 2, L0485: 2, L0604: 2, L0595: 2, T0002: 1, H0222: 1, S0040: 1, S0114: 1, H0583: 1, S0282: 1, S0418: 1, S0420: 1, L0534: 1, L0539: 1, S0356: 1, S0444: 1, S0360: 1, S0007: 1, S0046: 1, S0132: 1, L0717: 1, H0431: 1, H0461: 1, H0586: 1, H0559: 1, L0622: 1, L0623: 1, H0013: 1, H0250: 1, H0575: 1, H0706: 1, H0036: 1, T0071: 1, H0581: 1, H0421: 1, H0596: 1, L0040: 1, H0057: 1, S0051: 1, H0083: 1, H0060: 1, H0039: 1, H0628: 1, H0674: 1, H0708: 1, H0068: 1, H0038: 1, H0634: 1,		

224	IHTAB41	695732	234	172 - 204	738		H0056: 1, H0561: 1, H0641: 1, L0472: 1, S0144: 1, H0529: 1, L0769: 1, L0639: L0641: 1, L0380: 1, L0803: 1, L0378: 1, L0633: L0807: 1, L0659: 1, L0367: 1, L0791: 1, L0666: L0664: 1, L0665: 1, S0428: 1, H0593: 1, H0689: L0711: 1, H0682: 1, H0658: 1, H0539: 1, S0378: L0406: 1, H0631: 1, L0743: 1, L0744: 1, L0779: L0759: 1, S0031: 1, H0444: 1, S0436: 1, L0596: L0590: 1, L0608: 1, L0593: 1, L0361: 1, L0601: L0106: 1, H0668: 1, S0026: 1, H0665: 1, S0242: L0543: 1, H0422: 1 and H0506: 1.	
225	HLDBG17	855953	235	184 - 309	739	Leu-29 to His-34.	AR089: 45, AR060: 26 L0794: 4, H0574: 1 and H0239: 1. AR089: 92, AR060: 59 L0581: 185, H0509: 97, H0510: 36, H0014: 25, H0355: 18, H0393: 14, L0748: 13, H0574: 12, H0331: 9, H0057: 5, H0144: 5, H0015: 3, L0605: 3, H0357: 2, H0427: 2, L0663: 2, L0749: 2, L0756: 2, H0662: 1, H0351: 1, H0349: L0047: 1, H0038: 1, L0521: 1, L0518: 1, L0809: L0787: 1, L0438: 1, L0439: 1, L0747: 1, L0759:	

226	HLDCAS4	842190	236	550 - 690	740	1 and S0412: 1. AR060: 67, AR089: 41 L0157: 11, L0005: 3, H0619: 2, L0771: 2, L0766: 2, L0803: 2, S0152: 2, L0740: 2, L0754: 2, H0716: 1, S0222: 1, S0010: 1, H0373: 1, H0428: 1, H0059: 1, H0509: 1, L0794: 1, L0804: 1, L0805: 1, L0809: 1, L0666: 1, L0665: 1, S0044: 1, L0749: 1, L0756: 1, L0759: 1, S0196: 1 and H0543: 1.			
227	HLDOU79	740755	237	99 - 1142	741	Leu-68 to Lys-74, Tyr-109 to Lys-115, Gln-200 to Val-205, Lys-207 to Lys-214, Glu-237 to Ile-244, Ala-271 to Thr-279, Ser-317 to Ser-329, Gln-342 to Gly-348.	AR233: 8, AR245: 6, AR243: 5, AR263: 5, AR264: 4, AR250: 4, AR060: 4, AR309: 4, AR213: 4, AR271: 4, AR312: 3, AR246: 3, AR311: 3, AR212: 3, AR252: 3, AR308: 2, AR198: 2, AR039: 2, AR061: 2, AR104: 2, AR201: 2, AR055: 2, AR089: 2, AR096: 2, AR207: 2, AR272: 2, AR205: 2, AR033: 1, AR254: 1 L0748: 9, L0731: 7, L0771: 6, L0759: 6, H0013: 5, L0764: 4, L0747: 4, L0758: 4, H0265: 3, H0039: 3, H0038: 3, L0769: 3, L0766: 3, L0775: 3, H0144: 3, L0755: 3, S0444: 2, H0318: 2, H0050: 2, L0471: 2, H0266: 2, L0374: 2, L0649:		

228	HLDRT09	837599 830544	512 238	75 - 1121 522 - 719	1016 742	Ser-18 to Ser-30.	2, L0663: 2, L0664: 2, H0547: 2, S0126: 2, H0670: 2, L0740: 2, L0754: 2, L0750: 2, L0593: 2, H0667: 2, H0170: 1, H0171: 1, H0685: 1, H0662: 1, S0354: 1, S0360: 1, H0580: 1, H0151: 1, S0045: 1, H0357: 1, H0586: 1, H0331: 1, H0574: 1, H0635: 1, H0575: 1, H0263: 1, H0596: 1, H0545: 1, H0012: 1, H0620: 1, H0350: 1, H0355: 1, H0510: 1, H0428: 1, H0604: 1, H0031: 1, H0553: 1, S0366: 1, H0040: 1, H0616: 1, H0663: 1, H0059: 1, H0560: 1, H0561: 1, H0529: 1, L0640: 1, L0637: 1, L0761: 1, L0772: 1, L0646: 1, L0774: 1, L0375: 1, L0805: 1, L0653: 1, L0382: 1, L0352: 1, S0152: 1, S0350: 1, H0321: 1, H0696: 1, S0044: 1, H0627: 1, S0027: 1, L0749: 1, L0752: 1, H0595: 1, L0591: 1, L0595: 1, L0361: 1, S0011: 1, S0194: 1, S0276: 1 and H0423: 1.
							AR089: 6, AR060: 5 L0493: 8, L0500: 7, L0511: 7, L0508: 6, L0510: 6, L0514: 5, L0504: 4, L0499: 4, L0758: 4, L0507: 3, L0794: 3, L0497: 3, L0439: 3, H0509: 2, L0506: 2.

229	HLHAP05	638476	239	45 - 89	743	Gln-4 to Leu-14.	L0502: 2, L0503: 2, L0501: 2, L0509: 2, L0779: 2, H0265: 1, S0116: 1, H0483: 1, S0360: 1, H0431: 1, H0370: 1, L0015: 1, L0021: 1, H0510: 1, H0181: 1, H0617: 1, H0040: 1, H0633: 1, L0769: 1, L0639: 1, L0521: 1, L0662: 1, L0768: 1, L0804: 1, L0775: 1, L0515: 1, L0809: 1, L0789: 1, H0144: 1, H0682: 1, H0659: 1, H0660: 1, H0672: 1, L0748: 1, L0750: 1, S0192: 1 and L0697: 1.	
230	HLHCS23	560663	240	25 - 129	744		L0005: 3, H0024: 2, H0209: 1 and H0445: 1, AR060: 4, AR089: 2, H0024: 1	
231	HLIBO72	883431	241	167 - 550	745		AR096: 31, AR198: 27, AR312: 26, AR089: 24, AR249: 23, AR243: 20, AR053: 20, AR052: 18, AR265: 17, AR248: 17, AR213: 16, AR309: 15, AR271: 15, AR251: 15, AR033: 14, AR204: 13, AR186: 13, AR244: 13, AR263: 13, AR039: 13, AR253: 12, AR310: 12, AR104: 12, AR194: 11, AR273: 11, AR060: 11, AR246: 7, AR206: 7, AR205: 7, AR202: 5, AR061: 3, AR055: 3, H0355: 1	
232	HLICE88	840321	242	708 - 716	746		AR089: 13, AR060: 13, L0581: 21, H0098: 14,	

233	HLIC010	658740	243	441 - 659	747	Pro-30 to Asr-42, Ser-49 to Val-55, Ser-67 to Ser-72.	H0509: 7, H0015: 5, L0748: 5, H0147: 4, H0014: 4, S0438: 3, H0355: 2, H0510: 2, T0078: 2, H0170: 1, L0448: 1, H0149: 1, H0357: 1, H0331: 1, H0003: 1, H0349: 1, H0350: 1, L0787: 1, L0605: 1 and L0599: 1. AR089: 17, AR060: 13 L0439: 11, L0758: 10, L0766: 9, L0748: 8, L0596: 8, L0776: 7, L0747: 7, L0749: 7, L0771: 6, H0622: 4, L0517: 4, L0744: 4, L0740: 4, L0756: 4, H0251: 3, L0483: 3, L0662: 3, L0666: 3, L0438: 3, L0752: 3, L0759: 3, H0265: 2, S0114: 2, S0212: 2, S0418: 2, S0420: 2, S0356: 2, S0376: 2, S0360: 2, H0457: 2, L0770: 2, L0646: 2, L0764: 2, L0768: 2, L0774: 2, L0806: 2, L0663: 2, L0664: 2, H0689: 2, L0750: 2, L0731: 2, L0757: 2, H0543: 2, H0556: 1, T0002: 1, S0134: 1, S0218: 1, L0002: 1, L0785: 1, S0001: 1, H0661: 1, H0664: 1, H0662: 1, S0354: 1, H0580: 1, H0619: 1, S0222: 1, H0333: 1, H0013: 1, H0635: 1, H0156: 1, H0002: 1, H0042: 1, H0575: 1, L0105: 1, H0581: 1, H0374: 1, H0052: 1, H0085: 1, T0110: 1, L0471: 1, H0620: 1.
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234	HLJBS28	658742	244	339 - 412	748	<p>T0010: 1, H0355: 1, H0060: 1, S0214: 1, T0006: 1, H0111: 1, H0591: 1, H0616: 1, H0412: 1, H0561: 1, S0150: 1, S0142: 1, S0208: 1, H0529: 1, L0763: 1, L0769: 1, L0796: 1, L0761: 1, L0372: 1, L0377: 1, L0381: 1, L0375: 1, L0655: 1, L0657: 1, L0532: 1, L0665: 1, H0697: 1, H0520: 1, H0519: 1, S0126: 1, H0690: 1, H0682: 1, H0672: 1, S0330: 1, S0380: 1, S0152: 1, H0704: 1, H0655: 1, L0754: 1, L0745: 1, L0755: 1, H0444: 1, L0599: 1, L0362: 1, L0601: 1, S0196: 1 and L0600: 1, AR089: 5, AR060: 3, L0766: 1, L0803: 3, H0659: 3, L0744: 3, L0731: 3, L0758: 3, L0598: 2, L0649: 2, L0655: 2, L0747: 2, L0759: 2, S0342: 1, H0657: 1, H0439: 1, H0580: 1, H0587: 1, H0156: 1, L0021: 1, H0590: 1, H0375: 1, H0615: 1, H0428: 1, T0041: 1, L0638: 1, L0637: 1, L0651: 1, L0805: 1, L0659: 1, L0791: 1, H0702: 1, H0520: 1, H0547: 1, H0660: 1, H0648: 1, S0328: 1, H0521: 1, L0756: 1, L0752: 1, L0755: 1, H0445: 1, H0707: 1, L0581: 1, S0194: 1, H0423: 1, H0422:</p>
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235	HLMBW89	701996	245	47 - 112	749	His-15 to Gly-21.	1. H0506: 1 and L0600: 1. S0358: 2, H0331: 2. H0620: 2, L0646: 2, L0804: 2, L0666: 2, S0212: 1, H0255: 1, H0661: 1, S0444: 1, H0733: 1, H0351: 1, H0333: 1, H0632: 1, H0012: 1, S0440: 1, L0763: 1, L0770: 1, L0773: 1, L0803: 1, L0653: 1, L0659: 1, L0665: 1, L0438: 1, H0684: 1, L0439: 1, L0749: 1, L0757: 1, L0758: 1, L0588: 1, L0608: 1 and H0542: 1.
236	HLMGF50	647603	246	214 - 246	750		AR060: 3, AR089: 2 H0255: 2, H0385: 1, L0753: 1 and H0595: 1. H0521: 11, L0751: 9, L0777: 9, H0255: 8, L0747: 8, S0360: 7, L0766: 7, H0542: 7, L0754: 6, L0749: 6, L0757: 6, H0265: 5, H0052: 5, L0659: 5, L0665: 5, S0126: 5, H0539: 5, L0748: 5, L0439: 5, L0740: 5, L0758: 5, L0759: 5, H0624: 4, H0717: 4, H0046: 4, H0024: 4, H0551: 4, L0776: 4, L0438: 4, L0602: 4, L0743: 4, L0779: 4, H0575: 3, H0253: 3, H0545: 3, H0266: 3, H0284: 3, H0039: 3, H0068: 3, H0509: 3, L0770: 3, L0769: 3, L0662: 3, L0774: 3, L0809: 3, L0666: 3, L0663: 3, H0435: 3, H0672: 3, H0522: 3, S0406: 3, S0028: 3.
237	HLMJB64	658699	247	12 - 161	751	Ser-6 to Gly-11.	

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L0752: 3, L0731: 3, H0543: 3, H0171: 2, H0556: 2, H0716: 2, S0212: 2, H0638: 2, S0376: 2, H0386: 2, H0333: 2, L0021: 2, H0599: 2, H0036: 2, H0618: 2, H0581: 2, H0050: 2, L0163: 2, H0644: 2, H0040: 2, H0087: 2, S0038: 2, H0494: 2, S0144: 2, S0002: 2, L0369: 2, L0763: 2, L0637: 2, L0800: 2, L0773: 2, L0803: 2, L0375: 2, L0806: 2, L0655: 2, L0657: 2, H0144: 2, L0565: 2, H0689: 2, H0660: 2, H0436: 2, L0750: 2, S0436: 2, L0596: 2, L0589: 2, L0485: 2, L0604: 2, S0192: 2, S0242: 2, L0718: 2, S0040: 1, H0713: 1, S0134: 1, S0430: 1, H0341: 1, H0483: 1, H0671: 1, S0418: 1, S0420: 1, L0005: 1, S0442: 1, S0354: 1, S0358: 1, H0637: 1, S0045: 1, S0046: 1, S0140: 1, S0132: 1, S0476: 1, H0645: 1, H0351: 1, H0549: 1, H0550: 1, S0222: 1, H0441: 1, H0370: 1, L0468: 1, H0592: 1, H0587: 1, H0497: 1, H0559: 1, L0622: 1, T0114: 1, H0013: 1, H0069: 1, H0635: 1, H0427: 1, H0097: 1, H0042: 1, T0082: 1, H0318: 1, H0546: 1, H0123: 1, L0471: 1, H0620: 1, H0014: 1,
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238	HLMMX62	688051	248	185 - 268	752	Gln-20 to Lys-28.	AR060: 7, AR089: 7 H0255: 2, H0052: 1 and H0673: 1.
239	HLQAS12	886180	249	305 - 343	753		AR060: 4, AR089: 1

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H0521; 109, H0271: 19, L0659: 17, L0757: 16, H0494: 15, H0522: 14, S0027: 14, L0754: 13, L0740: 12, L0747: 12, H0556: 11, S0002: 11, H0638: 9, S0045: 8, H0250: 8, H0599: 8, S0126: 8, H0265: 7, S0360: 7, S0140: 7, T0040: 7, H0581: 7, L0666: 7, S0028: 7, S0358: 6, H0635: 6, H0545: 6, H0056: 6, L0663: 6, H0539: 6, L0731: 6, S0132: 5, S0278: 5, H0190: 5, H0052: 5, H0266: 5, S0426: 5, L0770: 5, S3014: 5, L0590: 5, H0294: 4, S0354: 4, H0575: 4, H0433: 4, H0413: 4, H0100: 4, L0764: 4, L0662: 4, L0776: 4, L0758: 4, H0222: 3, H0295: 3, S0212: 3, H0427: 3, H0590: 3, S0049: 3, H0544: 3, H0051: 3, S0250: 3, H0622: 3, H0163: 3, H0634: 3, H0412: 3, H0641: 3, S0142: 3, S0344: 3, L0769: 3, L0771: 3, L0794: 3, L0804: 3, L0655: 3, H0672: 3, L0602: 3, H0555: 3, H0436: 3, S0390: 3, L0751: 3, L0756: 3, L0591: 3, S0192: 3, H0506: 3, L0600: 3, H0341: 2, S0418: 2, S0420: 2, S0376: 2, S0468: 2, H0208: 2, S0046: 2, H0392: 2, T0039: 2, T0060: 2.

240	HLQCL64	864966	250	3 - 548	754				L0664: 1, L0665: 1, S0052: 1, L0565: 1, H0547: 1, H0519: 1, H0689: 1, H0682: 1, H0670: 1, H0518: 1, S0044: 1, H0576: 1, L0748: 1, L0439: 1, L0746: 1, L0755: 1, H0595: 1, S0436: 1, L0581: 1, H0667: 1 and H0352: 1. AR060: 8, AR089: 4, H0574: 19, H0271: 8, H0632: 6, S0428: 6, H0331: 5, S0052: 5, H0510: 4, S0142: 4, S0002: 4, S0053: 4, H0014: 3, S0438: 3, S0216: 3, S0278: 2, H0069: 2, H0635: 2, H0098: 2, H0416: 2, H0634: 2, H0509: 2, H0518: 2, H0222: 1, S0134: 1, S0360: 1, H0489: 1, H0042: 1, H0581: 1, H0046: 1, H0024: 1, H0375: 1, S0344: 1, S0426: 1, L0770: 1, L0646: 1, L0800: 1, L0644: 1, L0764: 1, L0803: 1, L0651: 1, L0525: 1, L0787: 1, L0777: 1 and H0445: 1.
241	HLQCX36	584786	251	89 - 247	755	Pro-35 to Ser-40.			AR231: 21, AR089: 17, AR233: 12, AR198: 11, AR060: 11, AR248: 11, AR249: 10, AR186: 9, AR096: 9, AR271: 8, AR312: 8, AR104: 8, AR204: 8, AR243: 7, AR244: 7, AR053: 6, AR033: 6, AR052: 6, AR273: 5, AR202: 5,

242	HLWAU06	658701	252	192 - 284	756	AR206: 5, AR061: 5, AR309: 5, AR039: 5, AR213: 5, AR265: 5, AR055: 5, AR205: 4, AR246: 3, AR310: 3, AR263: 2 L0459: 1 and H0574: 1, L0755: 3, L0664: 2, L0438: 2, L0439: 2, L0751: 2, L0752: 2, H0036: 1, L0471: 1, H0553: 1, S0002: 1, L0775: 1 and H0696: 1.		
243	HLWAU42	840855	253	1751 - 1924	757	AR060: 56, AR089: 39 L0740: 6, L0439: 5, H0553: 4, L0606: 4, L0731: 4, H0486: 3, H0672: 3, L0747: 3, H0581: 2, H0428: 2, H0169: 2, L0774: 2, L0518: 2, L0779: 2, L0752: 2, L0362: 2, S0242: 2, S0412: 2, S0040: 1, H0656: 1, H0341: 1, H0661: 1, H0459: 1, S0360: 1, L0717: 1, H0411: 1, S0278: 1, H0431: 1, H0592: 1, H0331: 1, H0013: 1, S0280: 1, H0599: 1, L0105: 1, H0051: 1, H0355: 1, S0022: 1, H0030: 1, H0031: 1, H0032: 1, H0509: 1, H0132: 1, H0646: 1, S0210: 1, L0766: 1, L0775: 1, L0661: 1, L0658: 1, L0783: 1, L0666: 1, L0664: 1, L0665: 1, L0438: 1, H0648: 1, S0330: 1, S0044: 1, S0028: 1, L0743: 1, L0744: 1, L0756: 1, L0755: 1, L0759: 1.		

244	HLWAU42	695737	254	220 - 393	758	H0595: 1 and S0192: 1; AR060: 56, AR089: 39 L0740: 6, L0439: 5, H0553: 4, L0606: 4, L0731: 4, H0486: 3, H0672: 3, L0747: 3, H0581: 2, H0428: 2, H0169: 2, L0774: 2, L0518: 2, L0779: 2, L0752: 2, L0362: 2, S0242: 2, S0412: 2, S0040: 1, H0656: 1, H0341: 1, H0661: 1, H0459: 1, S0360: 1, L0717: 1, H0411: 1, S0278: 1, H0431: 1, H0592: 1, H0331: 1, H0013: 1, S0280: 1, H0599: 1, L0105: 1, H0051: 1, H0555: 1, S0022: 1, H0030: 1, H0031: 1, H0032: 1, H0509: 1, H0132: 1, H0646: 1, S0210: 1, L0766: 1, L0775: 1, L0661: 1, L0658: 1, L0783: 1, L0666: 1, L0664: 1, L0665: 1, L0438: 1, H0648: 1, S0330: 1, S0044: 1, S0028: 1, L0743: 1, L0744: 1, L0756: 1, L0755: 1, L0759: 1, H0595: 1 and S0192: 1.	
245	HLWAV47	897769	255	200 - 298	759	AR089: 16, AR060: 10 L0754: 8, L0803: 4, H0553: 3, H0478: 2, L0745: 2, L0753: 2, H0170: 1, H0057: 1, L0163: 1, S6028: 1, L0598: 1, L0666: 1, L0663: 1 and H0144: 1.	
246	HLWBB73	740757	256	122 - 274	760	AR060: 5, AR089: 5, AR033: 4, AR052: 2, AR248: 2, AR096: 2,	

065009 01201

					AR310: 2, AR204: 2, AR263: 1 L0749: 16, L0439: 14, L0748: 12, L0759: 7, L0483: 6, L0803: 6, L0758: 5, H0052-4, L0740: 3, L0731: 3, H0556: 2, S0132: 2, H0455: 2, H0546: 2, S0003: 2, H0032: 2, S0366: 2, H0561: 2, L0766: 2, L0804: 2, L0774: 2, L0606: 2, L0438: 2, H0539: 2, L0751: 2, L0779: 2, L0608: 2, H0170: 1, H0394: 1, S0024: 1, H0661: 1, H0638: 1, S0418: 1, L0005: 1, S0356: 1, S0358: 1, S0360: 1, H0729: 1, H0728: 1, S0045: 1, S6026: 1, H0411: 1, H0331: 1, H0486: 1, H0253: 1, H0581: 1, S0049: 1, H0012: 1, S0388: 1, S0051: 1, T0010: 1, H0687: 1, H0328: 1, H0553: 1, L0055: 1, H0400: 1, S0036: 1, H0591: 1, H0551: 1, T0067: 1, H0264: 1, H0413: 1, S0438: 1, L0369: 1, L0637: 1, L0646: 1, L0521: 1, L0806: 1, L0655: 1, L0809: 1, L0663: 1, L0665: 1, H0691: 1, L0352: 1, H0682: 1, H0659: 1, H0648: 1, S0380: 1, H0521: 1, H0696: 1, S0188: 1, H0134: 1, S0404: 1, L0756: 1, L0777: 1, L0752: 1, S0031: 1, S0260: 1, S0436: 1, L0480:
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247	HLWCN37	827294	257	81 - 212	761	<p>1, L0485: 1, L0593: 1, S0242: 1, H0543: 1 and S0424: 1.</p> <p>AR089: 6, AR060: 4 L0766: 11, L0439: 7, L0758: 7, H0644: 5, H0650: 4, H0553: 4, H0616: 4, L0771: 4, L0805: 4, S0328: 4, L0756: 4, L0731: 4, S0222: 3, H0169: 3, S0422: 3, L0770: 3, L0508: 3, L0776: 3, L0438: 3, S0330: 3, L0748: 3, L0747: 3, L0599: 3, H0549: 2, H0494: 2, L0768: 2, L0794: 2, L0783: 2, L0666: 2, L0754: 2, S0031: 2, H0556: 1, S6024: 1, S0001: 1, S0400: 1, H0661: 1, S0360: 1, S0410: 1, H0610: 1, H0592: 1, H0586: 1, H0587: 1, H0599: 1, H0706: 1, H0123: 1, H0373: 1, H0375: 1, S6028: 1, L0138: 1, H0031: 1, L0143: 1, H0264: 1, S0372: 1, S0448: 1, H0647: 1, L0506: 1, L0769: 1, L0638: 1, L0764: 1, L0773: 1, L0767: 1, L0499: 1, L0497: 1, L0659: 1, L0809: 1, H0701: 1, H0703: 1, S0454: 1, H0696: 1, H0555: 1, L0742: 1, L0740: 1, L0750: 1, L0786: 1, L0777: 1 and H0423: 1.</p>
248	HLWDB73	838453	258	95 - 202	762	<p>L0777: 13, L0803: 9, L0748: 9, L0731: 6, L0766: 5, L0754: 5, H0423: 5.</p>

	L0794; 4, H0144; 4, L0740; 4, L0779; 4, H0171; 3, S0408; 3, H0580; 3, S0003; 3, H0553; 3, H0616; 3, L0804; 3, H0519; 3, L0439; 3, L0751; 3, S0026; 3, H0422; 3, H0170; 2, H0717; 2, S0356; 2, H0486; 2, H0318; 2, H0644; 2, H0068; 2, H0038; 2, H0551; 2, H0413; 2, L0598; 2, L0769; 2, L0646; 2, L0662; 2, L0388; 2, L0784; 2, L0805; 2, L0776; 2, L0790; 2, H0547; 2, H0710; 2, H0521; 2, L0745; 2, L0747; 2, L0756; 2, L0752; 2, H0624; 1, H0556; 1, S0342; 1, S0114; 1, S0134; 1, S0218; 1, H0650; 1, L0808; 1, S0354; 1, S0444; 1, S0360; 1, S0046; 1, H0411; 1, H0438; 1, H0600; 1, H0632; 1, T0039; 1, H0013; 1, H0427; 1, H0581; 1, H0421; 1, H0544; 1, H0046; 1, H0457; 1, H0150; 1, H0563; 1, H0123; 1, H0019; 1, L0471; 1, H0024; 1, H0271; 1, H0416; 1, H0428; 1, H0039; 1, L0055; 1, H0361; 1, H0598; 1, H0090; 1, H0591; 1, H0268; 1, H0623; 1, H0560; 1, S0440; 1, S0150; 1, H0641; 1, H0647; 1, H0646; 1, S0344; 1, S0002; 1, UNKNWN; 1, L0763; 1, L0770; 1, L0637;
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249	HL YDF73	566869	259	363 - 434	763	1, L0761: 1, L0667: 1, L0764: 1, L0767: 1, L0768: 1, L0649: 1, L0775: 1, L0373: 1, L0806: 1, L0807: 1, L0659: 1, L0783: 1, L0791: 1, L0792: 1, L0663: 1, L0664: 1, S0374: 1, L0438: 1, H0320: 1, S0126: 1, H0658: 1, H0648: 1, S0330: 1, S0152: 1, H0696: 1, S0406: 1, H0576: 1, S0028: 1, L0749: 1, L0780: 1, L0755: 1, L0758: 1, S0031: 1, H0595: 1, L0596: 1, L0581: 1, L0604: 1, H0665: 1 and S0194: 1.	
250	HL YEUS9	582084	260	258 - 389	764	AR089: 4, AR060: 2 H0445: 1	
251	HL YGB19	838083	261	1863 - 1907	765	AR060: 10, AR089: 9 L0752: 10, L0471: 9, L0731: 9, H0422: 9, L0748: 6, H0556: 5, H0040: 5, L0641: 5, L0766: 5, L0439: 5, L0749: 5, H0543: 5, H0620: 4, H0264: 4, L0662: 4, L0755: 4, S0114: 3, S0360: 3, H0599: 3, H0024: 3, H0135: 3, L0747: 3, L0757: 3, L0759: 3, H0445: 3, H0423: 3, H0265: 2, S0116: 2, H0341: 2, H0013: 2, H0244: 2, H0581: 2, H0050: 2, L0456: 2, L0769: 2, L0639: 2, L0761: 2, L0649: 2, L0774: 2, L0775: 2, L0776: 2, L0384: 2, L0663: 2, L0665: 2, H0144:	

252	HLYG916	651339	262	406 - 627	766	Arg-23 to Trp-42, Val-52 to Pro-61.	2, L0563: 2, H0658: 2, H0539: 2, H0436: 2, L0744: 2, L0750: 2, L0779: 2, L0758: 2, S0134: 1, H0657: 1, H0656: 1, S0212: 1, S0400: 1, S0420: 1, S0046: 1, S0476: 1, H0619: 1, H0393: 1, L0717: 1, S0220: 1, H0486: 1, H0706: 1, L0563: 1, H0545: 1, H0150: 1, H0009: 1, T0010: 1, H0354: 1, H0271: 1, H0292: 1, H0284: 1, H0286: 1, H0028: 1, H0615: 1, H0622: 1, T0023: 1, H0553: 1, H0616: 1, H0413: 1, L0351: 1, S0438: 1, H0646: 1, S0208: 1, L0796: 1, L0667: 1, L0644: 1, L0764: 1, L0768: 1, L0654: 1, L0655: 1, L0606: 1, L0634: 1, L0659: 1, L0809: 1, L0367: 1, L0791: 1, L0793: 1, L0666: 1, L0438: 1, H0520: 1, H0519: 1, H0689: 1, H0684: 1, H0666: 1, H0672: 1, S0378: 1, H0631: 1, L0741: 1, L0756: 1, S0260: 1, L0599: 1, L0595: 1, S0242: 1 and H0542: 1.
253	HLYG91	658703	263	211 - 339	767	Arg-23 to Trp-42, Val-52 to Pro-61.	AR000: 1 H0255: 5, L0599: 2, S0040: 1, S0024: 1, H0642: 1, L0776: 1, L0659: 1, H0144: 1, H0345: 1, L0758: 1 and H0445: 1.
							AR089: 1 H0692: 10, L0777: 9.

254	HMCZ04	839783	264	106 - 1455	768	Pro-76 to Phe-81, Gln-95 to Pro-102, Leu-121 to Ile-128, Asp-131 to Ser-137, Thr-174 to Trp-179, Arg-217 to Lys-224, Val-257 to Asn-262, Asn-277 to Glu-283, His-325 to Asn-350, Lys-365 to Thr-377, Pro-404 to Arg-411.	AR089: 16, AR060: 9 S0132: 10, S0358: 9, S0408: 8, S0410: 8, S0002: 8, L0748: 7, H0494: 6, L0599: 6, S0142: 5, L0777: 5, S0476: 4, L0483: 4, L0775: 4, L0659: 4, H0521: 4, S0442: 3, S0278: 3, H0284: 3, H0039: 3, H0674: 3, H0591: 3, S0426: 3, L0771: 3, L0773: 3, S0374: 3, L0439: 3, H0556: 2, T0002: 2, H0584: 2, H0657: 2, S0360: 2, H0574: 2, H0486: 2, H0231: 2, H0046: 2, H0024: 2, H0286: 2, H0673: 2, S0440: 2, L0764: 2, L0766: 2, L0774: 2, L0651: 2, L0655: 2, L0664: 2, H0658: 2, H0710: 2, S0044: 2, S0404: 2, L0745: 2, L0747: 2, S0434: 2, L0581: 2, S0276: 2, H0543:	L0803: 3, S0222: 2, H0328: 2, H0644: 2, L0662: 2, L0805: 2, L0809: 2, H0521: 2, L0752: 2, L0599: 2, H0170: 1, H0713: 1, H0402: 1, S0358: 1, S0444: 1, S0360: 1, H0427: 1, H0052: 1, H0050: 1, H0598: 1, H0038: 1, L0520: 1, L0800: 1, L0648: 1, L0794: 1, L0804: 1, L0554: 1, H0658: 1, H0670: 1, H0478: 1, L0731: 1, L0758: 1, H0445: 1, S0434: 1, L0591: 1, L0562: 1 and H0668: 1.		
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255	HMCZ04	858210	265	497 - 604	769	Met-1 to Pro-7.	2, H0423: 2, H0422: 2, H0677: 2, H0506: 2, H0171: 1, H0167: 1, H0713: 1, S0298: 1, S0212: 1, H0662: 1, H0459: 1, S0348: 1, S0376: 1, S0444: 1, H0208: 1, H0632: 1, H0075: 1, H0635: 1, H0156: 1, H0042: 1, H0575: 1, H0036: 1, H0318: 1, H0251: 1, H0309: 1, H0545: 1, H0107: 1, H0083: 1, H0179: 1, H0687: 1, H0292: 1, S0003: 1, S0214: 1, H0622: 1, H0644: 1, H0628: 1, H0617: 1, L0055: 1, H0032: 1, H0316: 1, H0090: 1, H0040: 1, H0063: 1, T0067: 1, H0264: 1, L0564: 1, H0202: 1, S0014: 1, H0560: 1, S0372: 1, H0633: 1, H0649: 1, S0144: 1, L0640: 1, L0371: 1, L0770: 1, L0667: 1, L0803: 1, L0376: 1, L0805: 1, L0653: 1, L0542: 1, L0783: 1, L0809: 1, L0663: 1, H0701: 1, S0126: 1, H0689: 1, H0672: 1, S0328: 1, L0602: 1, S0406: 1, H0187: 1, S0206: 1, L0743: 1, L0756: 1, L0779: 1, L0752: 1, L0731: 1, L0759: 1, S0308: 1, H0343: 1, L0485: 1, L0601: 1 and S0011: 1.
							AR089: 16, AR060: 9 S0132: 10, S0358: 9, S0408: 8, S0410: 8, S0002:

							8, L0748: 7, H0494: 6, L0599: 6, S0142: 5, L0777: 5, S0476: 4, L0483: 4, L0773: 4, L0659: 4, H0321: 4, S0442: 3, S0278: 3, H0284: 3, H0039: 3, H0674: 3, H0591: 3, S0426: 3, L0771: 3, L0773: 3, S0374: 3, L0439: 3, H0556: 2, T0002: 2, H0584: 2, H0657: 2, S0360: 2, H0574: 2, H0486: 2, H0231: 2, H0046: 2, H0024: 2, H0286: 2, H0673: 2, S0440: 2, L0764: 2, L0766: 2, L0774: 2, L0651: 2, L0655: 2, L0664: 2, H0658: 2, H0710: 2, S0044: 2, S0404: 2, L0745: 2, L0747: 2, S0434: 2, L0581: 2, S0276: 2, H0543: 2, H0423: 2, H0422: 2, H0677: 2, H0506: 2, H0171: 1, H0167: 1, H0713: 1, S0298: 1, S0212: 1, H0662: 1, H0459: 1, S0348: 1, S0376: 1, S0444: 1, H0208: 1, H0632: 1, H0075: 1, H0635: 1, H0156: 1, H0042: 1, H0575: 1, H0036: 1, H0318: 1, H0251: 1, H0309: 1, H0545: 1, H0107: 1, H0083: 1, H0179: 1, H0687: 1, H0292: 1, S0003: 1, S0214: 1, H0622: 1, H0644: 1, H0628: 1, H0617: 1, L0055: 1, H0032: 1, H0316: 1, H0090: 1, H0040: 1, H0063: 1, T0067: 1, H0264:
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256	HIMAZ04	867910	266	106 - 1455	770	Pro-76 to Phe-81, Gln-95 to Pro-102, Leu-121 to Ile-128, Asp-131 to Ser-137, Thr-174 to Trp-179, Arg-217 to Lys-224, Val-257 to Asn-262, Asn-277 to Glu-283, His-325 to Asn-330, Lys-365 to Thr-377, Pro-404 to Arg-411.	1, L0564: 1, H0202: 1, S0014: 1, H0560: 1, S0372: 1, H0633: 1, H0649: 1, S0144: 1, L0640: 1, L0371: 1, L0770: 1, L0667: 1, L0803: 1, L0376: 1, L0805: 1, L0653: 1, L0542: 1, L0783: 1, L0809: 1, L0663: 1, H0701: 1, S0126: 1, H0689: 1, H0672: 1, S0328: 1, L0602: 1, S0406: 1, H0187: 1, S0206: 1, L0743: 1, L0756: 1, L0779: 1, L0752: 1, L0731: 1, L0759: 1, S0308: 1, H0343: 1, L0485: 1, L0601: 1 and S0011: 1.		
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257	HMCZ04	887445	267	498 - 605	771	Met-1 to Pro-7.	2, L0747: 2, S0434: 2, L0581: 2, S0276: 2, H0543: 2, H0423: 2, H0422: 2, H0677: 2, H0506: 2, H0171: 1, H0167: 1, H0713: 1, S0298: 1, S0212: 1, H0662: 1, H0459: 1, S0348: 1, S0376: 1, S0444: 1, H0208: 1, H0632: 1, H0075: 1, H0635: 1, H0156: 1, H0042: 1, H0575: 1, H0036: 1, H0318: 1, H0251: 1, H0309: 1, H0545: 1, H0107: 1, H0083: 1, H0179: 1, H0687: 1, H0292: 1, S0003: 1, S0214: 1, H0622: 1, H0644: 1, H0628: 1, H0617: 1, L0055: 1, H0032: 1, H0316: 1, H0090: 1, H0040: 1, H0063: 1, T0067: 1, H0264: 1, L0564: 1, H0202: 1, S0014: 1, H0560: 1, S0372: 1, H0633: 1, H0649: 1, S0144: 1, L0640: 1, L0371: 1, L0770: 1, L0667: 1, L0803: 1, L0376: 1, L0805: 1, L0653: 1, L0542: 1, L0783: 1, L0809: 1, L0663: 1, H0701: 1, S0126: 1, H0689: 1, H0672: 1, S0328: 1, L0602: 1, S0406: 1, H0187: 1, S0206: 1, L0743: 1, L0756: 1, L0779: 1, L0752: 1, L0731: 1, L0759: 1, S0308: 1, H0343: 1, L0485: 1, L0601: 1 and S0011: 1.
							AR089: 16, AR060: 9

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					S0132: 10, S0358: 9, S0408: 8, S0410: 8, S0002: 8, L0748: 7, H0494: 6, L0599: 6, S0142: 5, L0777: 5, S0476: 4, L0483: 4, L0775: 4, L0659: 4, H0521: 4, S0442: 3, S0278: 3, H0284: 3, H0039: 3, H0674: 3, H0591: 3, S0426: 3, L0771: 3, L0773: 3, S0374: 3, L0439: 3, H0556: 2, T0002: 2, H0584: 2, H0657: 2, S0360: 2, H0574: 2, H0486: 2, H0231: 2, H0046: 2, H0024: 2, H0286: 2, H0673: 2, S0440: 2, L0764: 2, L0766: 2, L0774: 2, L0651: 2, L0655: 2, L0664: 2, H0658: 2, H0710: 2, S0044: 2, S0404: 2, L0745: 2, L0747: 2, S0434: 2, L0581: 2, S0276: 2, H0543: 2, H0423: 2, H0422: 2, H0677: 2, H0506: 2, H0171: 1, H0167: 1, H0713: 1, S0298: 1, S0212: 1, H0662: 1, H0459: 1, S0348: 1, S0376: 1, S0444: 1, H0208: 1, H0632: 1, H0075: 1, H0635: 1, H0156: 1, H0042: 1, H0575: 1, H0036: 1, H0318: 1, H0251: 1, H0309: 1, H0545: 1, H0107: 1, H0083: 1, H0179: 1, H0687: 1, H0292: 1, S0003: 1, S0214: 1, H0622: 1, H0644: 1, H0628: 1, H0617: 1, L0055: 1, H0032: 1, H0316:
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258	HMC/AZ04	668249	268	97 - 204	772	Met-1 to Pro-7.	1, H0090: 1, H0040: 1, H0063: 1, T0067: 1, H0264: 1, L0564: 1, H0202: 1, S0014: 1, H0360: 1, S0372: 1, H0633: 1, H0649: 1, S0144: 1, L0640: 1, L0371: 1, L0770: 1, L0667: 1, L0803: 1, L0376: 1, L0805: 1, L0653: 1, L0542: 1, L0783: 1, L0809: 1, L0663: 1, H0701: 1, S0126: 1, H0689: 1, H0672: 1, S0328: 1, L0602: 1, S0406: 1, H0187: 1, S0206: 1, L0743: 1, L0756: 1, L0779: 1, L0752: 1, L0731: 1, L0759: 1, S0308: 1, H0343: 1, L0485: 1, L0601: 1 and S0011: 1.		
							AR089: 16, AR060: 9 S0132: 10, S0358: 9, S0408: 8, S0410: 8, S0002: 8, L0748: 7, H0494: 6, L0599: 6, S0142: 5, L0777: 5, S0476: 4, L0483: 4, L0775: 4, L0659: 4, H0521: 4, S0442: 3, S0278: 3, H0284: 3, H0039: 3, H0674: 3, H0591: 3, S0426: 3, L0771: 3, L0773: 3, S0374: 3, L0439: 3, H0556: 2, T0002: 2, H0584: 2, H0657: 2, S0360: 2, H0574: 2, H0486: 2, H0231: 2, H0046: 2, H0024: 2, H0286: 2, H0673: 2, S0440: 2, L0764: 2, L0766: 2, L0774: 2, L0651: 2, L0655: 2, L0664:		

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2, H0658: 2, H0710: 2, S0044: 2, S0404: 2, L0745: 2, L0747: 2, S0434: 2, L0581: 2, S0276: 2, H0543: 2, H0423: 2, H0422: 2, H0677: 2, H0506: 2, H0171: 1, H0167: 1, H0713: 1, S0298: 1, S0212: 1, H0662: 1, H0459: 1, S0348: 1, S0376: 1, S0444: 1, H0208: 1, H0632: 1, H0075: 1, H0635: 1, H0156: 1, H0042: 1, H0575: 1, H0036: 1, H0318: 1, H0251: 1, H0309: 1, H0545: 1, H0107: 1, H0083: 1, H0179: 1, H0687: 1, H0292: 1, S0003: 1, S0214: 1, H0622: 1, H0644: 1, H0628: 1, H0617: 1, L0055: 1, H0032: 1, H0316: 1, H0090: 1, H0440: 1, H0063: 1, T0067: 1, H0264: 1, L0564: 1, H0202: 1, S0014: 1, H0560: 1, S0372: 1, H0633: 1, H0649: 1, S0144: 1, L0640: 1, L0371: 1, L0770: 1, L0667: 1, L0803: 1, L0376: 1, L0805: 1, L0653: 1, L0542: 1, L0783: 1, L0809: 1, L0663: 1, H0701: 1, S0126: 1, H0689: 1, H0672: 1, S0328: 1, L0602: 1, S0406: 1, H0187: 1, S0206: 1, L0743: 1, L0756: 1, L0779: 1, L0752: 1, L0731: 1, L0759: 1, S0308: 1, H0343: 1, L0485: 1, L0601: 1 and
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259	HMCFL60	654853	269	211 - 357	773	<p>S0011: 1.</p> <p>AR089: 82, AR060: 48</p> <p>L0659: 10, L0665: 9,</p> <p>L0519: 8, L0759: 8, L0776:</p> <p>7, L0749: 7, L0744: 6,</p> <p>L0747: 6, L0758: 6, H0150:</p> <p>5, L0769: 5, L0766: 5,</p> <p>L0748: 5, S0360: 4, S0046:</p> <p>4, S0010: 4, L0662: 4,</p> <p>L0768: 4, L0774: 4, L0775:</p> <p>4, S0406: 4, L0751: 4,</p> <p>L0754: 4, L0779: 4, H0549:</p> <p>3, H0575: 3, H0545: 3,</p> <p>H0687: 3, H0428: 3, L0764:</p> <p>3, L0666: 3, H0648: 3,</p> <p>H0436: 3, L0750: 3, H0624:</p> <p>2, H0171: 2, H0295: 2,</p> <p>H0657: 2, S0418: 2, S0420:</p> <p>2, S0356: 2, S0358: 2,</p> <p>S0376: 2, S0408: 2, S0222:</p> <p>2, T0039: 2, H0635: 2,</p> <p>T0048: 2, H0421: 2, H0052:</p> <p>2, H0544: 2, H0009: 2,</p> <p>H0620: 2, S6028: 2, T0006:</p> <p>2, H0031: 2, H0038: 2,</p> <p>H0087: 2, T0067: 2, H0494:</p> <p>2, S0440: 2, S0344: 2,</p> <p>L0638: 2, L0372: 2, L0641:</p> <p>2, L0806: 2, L0653: 2,</p> <p>L0527: 2, L0809: 2, H0658:</p> <p>2, H0672: 2, S0330: 2,</p> <p>L0741: 2, L0742: 2, L0596:</p> <p>2, L0605: 2, S0194: 2,</p> <p>L0718: 2, H0265: 1, H0685:</p> <p>1, H0713: 1, T0049: 1,</p> <p>H0656: 1, S0110: 1, S0282:</p> <p>1, H0484: 1, H0638: 1,</p> <p>S0442: 1, H0637: 1, S0468:</p>
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260	HMDAB29	584789	270	97 - 177	774	1, S0132: 1, S0476: 1, H0550: 1, H0642: 1, L0622: 1, H0013: 1, H0250: 1, H0069: 1, S0280: 1, H0156: 1, H0599: 1, H0706: 1, H0253: 1, S0346: 1, H0318: 1, H0581: 1, S0049: 1, L0040: 1, H0597: 1, L0738: 1, L0471: 1, H0014: 1, H0373: 1, S0388: 1, S0051: 1, H0239: 1, H0594: 1, H0271: 1, H0604: 1, H0213: 1, H0628: 1, H0673: 1, H0068: 1, H0090: 1, H0634: 1, H0551: 1, H0268: 1, H0412: 1, H0413: 1, S0038: 1, H0647: 1, L0770: 1, L0637: 1, L5566: 1, L0761: 1, L0772: 1, L0646: 1, L0374: 1, L0771: 1, L4500: 1, L0375: 1, L0651: 1, L0784: 1, L0807: 1, L0657: 1, L0658: 1, L0656: 1, L0782: 1, L0783: 1, L0530: 1, L0647: 1, L0788: 1, L0663: 1, L0664: 1, S0216: 1, H0144: 1, L0565: 1, H0693: 1, L0438: 1, H0520: 1, H0689: 1, H0659: 1, S0328: 1, S0380: 1, H0710: 1, S0144: 1, S0027: 1, L0439: 1, L0740: 1, L0756: 1, L0786: 1, L0780: 1, L0755: 1, S0434: 1, L0581: 1, L0595: 1, L0601: 1, H0667: 1, S0192: 1, H0542: 1, H0543: 1 and H0506: 1, AR089: 56, AR060: 22
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261	HMDAD44	566854	271	135 - 161	775		H0346: 1 and S0330: 1; AR089: 21, AR060: 14 L0749: 3, H0346: 1, H0370: 1, H0427: 1 and L0439: 1.	
262	HMEBB82	783077	272	30 - 134	776		AR251: 32, AR309: 25, AR310: 25, AR273: 24, AR312: 23, AR052: 22, AR053: 22, AR265: 22, AR263: 17, AR213: 13, AR096: 15, AR248: 14, AR271: 12, AR253: 12, AR243: 12, AR249: 10, AR033: 9, AR186: 9, AR198: 8, AR055: 7, AR089: 7, AR246: 6, AR061: 5, AR205: 5, AR104: 4, AR194: 4, AR060: 4, AR039: 4, AR206: 3, AR244: 3, AR202: 2, AR204: 1 H0046: 19, L0766: 8, L0471: 5, H0124: 4, L0666: 4, H0521: 4, L0748: 4, L0779: 4, H0013: 3, S0214: 3, L0803: 3, H0144: 3, H0520: 3, L0777: 3, L0752: 3, L0758: 3, S0376: 2, S0360: 2, L0717: 2, H0431: 2, H0574: 2, S0346: 2, H0014: 2, S0003: 2, H0674: 2, S0306: 2, H0529: 2, L0646: 2, L0804: 2, L0776: 2, L0792: 2, L0663: 2, L0665: 2, L0438: 2, S0152: 2, S0404: 2, S3014: 2, L0755: 2, L0731: 2, L0757: 2, S0196: 2, H0543: 2.	

263	HMEDE24	837027	273	900 - 1001	777	Asn-17 to Asn-22, Arg-27 to Lys-33.	H0556: 1, H0650: 1, S0001: 1, L0481: 1, S0418: 1, L0005: 1, S0356: 1, S0354: 1, H0580: 1, H0587: 1, H0632: 1, H0559: 1, H0492: 1, T0039: 1, H0036: 1, S0010: 1, H0251: 1, H0545: 1, H0123: 1, H0373: 1, T0010: 1, H0267: 1, H0615: 1, H0553: 1, H0644: 1, H0591: 1, H0683: 1, H0551: 1, H0264: 1, H0488: 1, H0412: 1, H0413: 1, H0494: 1, H0560: 1, S0352: 1, S0438: 1, S0440: 1, S0002: 1, L0763: 1, L0770: 1, L0769: 1, L0639: 1, L0641: 1, L0642: 1, L0764: 1, L0662: 1, L0363: 1, L0774: 1, L0375: 1, L0527: 1, L0657: 1, L0540: 1, L0526: 1, L0782: 1, L0787: 1, H0547: 1, H0519: 1, H0666: 1, S0328: 1, S0044: 1, H0553: 1, S0028: 1, L0744: 1, L0740: 1, L0749: 1, L0756: 1, S0260: 1, L0595: 1, H0653: 1, H0667: 1, S0242: 1, H0422: 1, S0424: 1 and S0452: 1
							AR039: 33, AR096: 28, AR053: 25, AR198: 23, AR271: 20, AR243: 20, AR089: 19, AR213: 18, AR205: 17, AR309: 16, AR246: 16, AR212: 15, AR197: 15, AR308: 15, AR312: 15, AR272: 14,

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AR311: 14, AR201: 14, AR245: 14, AR207: 13, AR264: 13, AR263: 13, AR254: 12, AR060: 12, AR104: 10, AR253: 9, AR252: 9, AR250: 9, AR061: 8, AR204: 8, AR033: 7, AR055: 5 L0747: 28, L0588: 20, L0757: 19, H0251: 14, S0358: 12, S0045: 12, L0731: 12, H0412: 10, L0771: 10, L0748: 9, L0758: 9, H0506: 9, L0662: 7, H0013: 6, S0003: 6, H0551: 6, L0659: 6, L0666: 6, S0328: 6, L0750: 6, L0759: 6, L0599: 6, L0608: 6, S0360: 5, S0046: 5, H0623: 5, L0763: 5, L0764: 5, L0664: 5, L0439: 5, S0026: 5, S0408: 4, H0486: 4, H0581: 4, H0674: 4, H0529: 4, S0126: 4, S0136: 4, L0752: 4, H0556: 3, S0212: 3, S0420: 3, H0004: 3, H0266: 3, H0615: 3, H0622: 3, H0553: 3, H0591: 3, H0413: 3, L0770: 3, L0806: 3, L0776: 3, H0672: 3, L0740: 3, L0751: 3, L0749: 3, S0192: 3, H0170: 2, S0040: 2, H0657: 2, H0656: 2, S0356: 2, S0410: 2, H0393: 2, H0333: 2, H0427: 2, S0280: 2, H0156: 2, H0318: 2, H0596: 2, T0110: 2, H0545: 2, H0046: 2,

					H0009: 2, L0471: 2, H0188: 2, H0328: 2, L0483: 2, H0031: 2, H0264: 2, H0494: 2, S0210: 2, L0772: 2, L0646: 2, L0794: 2, L0766: 2, L0649: 2, L0650: 2, L0651: 2, L0655: 2, L0789: 2, L0663: 2, L0665: 2, H0144: 2, L0352: 2, H0435: 2, H0658: 2, H0521: 2, H0696: 2, S0404: 2, S0406: 2, H0555: 2, H0445: 2, L0591: 2, L0594: 2, H0422: 2, H0624: 1, H0171: 1, H0265: 1, H0713: 1, S6024: 1, H0295: 1, S0134: 1, H0661: 1, H0664: 1, L0005: 1, S0354: 1, S0376: 1, S0444: 1, S0468: 1, H0619: 1, H0351: 1, S0220: 1, H0392: 1, H0403: 1, H0587: 1, H0574: 1, H0485: 1, T0040: 1, L0021: 1, H0599: 1, H0274: 1, S0346: 1, T0048: 1, S0049: 1, H0434: 1, H0052: 1, H0263: 1, H0597: 1, H0050: 1, H0012: 1, H0620: 1, T0003: 1, H0024: 1, H0057: 1, H0051: 1, H0510: 1, H0687: 1, S0022: 1, H0428: 1, H0039: 1, H0030: 1, H0644: 1, H0628: 1, H0166: 1, H0212: 1, H0135: 1, H0163: 1, H0090: 1, H0038: 1, H0040: 1, H0087: 1, H0488: 1, H0433: 1, S0038: 1, H0100: 1, H0429: 1, S0450: 1,
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264	HMED190	840077	274	622 - 675	778	Ser-7 to Thr-13.	H0132: 1, S0472: 1, H0646: 1, H0652: 1, S0344: 1, S0426: 1, L0640: 1, L0371: 1, L0372: 1, L0374: 1, L0767: 1, L0768: 1, L0364: 1, L0375: 1, L0378: 1, L0606: 1, L0656: 1, L4558: 1, L0783: 1, L0647: 1, S0374: 1, T0068: 1, L0438: 1, H0547: 1, H0519: 1, H0689: 1, H0711: 1, H0684: 1, H0659: 1, H0670: 1, H0648: 1, S0330: 1, S0378: 1, S0380: 1, H0709: 1, S0146: 1, S3012: 1, S0206: 1, L0742: 1, L0744: 1, L0755: 1, H0707: 1, S0434: 1, S0436: 1, L0593: 1, L0362: 1, H0543: 1, S0424: 1 and H0293: 1.
265	HMELM75	S87307	275	113 - 394	779		AR000: 5, AR089: 2, L0439: 8, L0776: 6, S0222: 2, S6028: 2, H0266: 2, L0438: 2, L0745: 2, L0756: 2, L0717: 1, S0010: 1, H0052: 1, H0194: 1, H0009: 1, T0010: 1, S0036: 1, L0789: 1, H0144: 1, S0028: 1, L0779: 1 and L0758: 1. AR000: 5, AR089: 3, L0766: 8, H0542: 5, L0764: 4, H0497: 3, H0266: 3, L0749: 3, S0420: 2, H0264: 2, L0646: 2, L0768: 2, S0152: 2, L0748: 2, L0747: 2, L0758: 2, L0608: 2, L0595: 2, H0668: 2, H0667: 2, S0424: 2, H0294: 1.

							1, H0650: 1, H0661: 1, S0418: 1, H0645: 1, H0393: 1, H0486: 1, H0013: 1, H0253: 1, H0051: 1, H0606: 1, H0040: 1, L0564: 1, S0440: 1, S0210: 1, L0369: 1, L0763: 1, L0769: 1, L0372: 1, L0771: 1, L0606: 1, L0666: 1, L0665: 1, H0520: 1, H0684: 1, S0328: 1, H0521: 1, H0134: 1, L0755: 1, H0595: 1, L0593: 1, S0026: 1, H0665: 1 and H0543: 1.		
266	HMIK10	562774	276	195 - 290	780		AR060: 6, AR089: 3 S6028: 1		
267	HMIBF07	603528	277	229 - 249	781		AR060: 4, AR089: 2 H0009: 1 and S6028: 1.		
268	HMICI80	827318	278	1149 - 1247	782	Gln-13 to Tyr-20.	AR060: 6, AR089: 3 L0439: 17, L0438: 3, L0415: 2, H0156: 2, S0049: 2, H0052: 2, S0388: 2, L0805: 2, L0748: 2, L0777: 2, L0592: 2, S0045: 1, S0222: 1, S0346: 1, H0563: 1, H0569: 1, S0051: 1, S6028: 1, S0036: 1, L0809: 1, L0789: 1, L0756: 1 and L0755: 1.		
269	HMICP65	847403	279	249 - 341	783		AR089: 9, AR060: 6 H0156: 5, H0650: 3, S0474: 3, L0666: 3, H0341: 2, H0393: 2, H0486: 2, H0052: 2, H0039: 2, H0135: 2, S0330: 2, L0748: 2, L0439: 2, L0757: 2, L0601: 2, H0224: 1, H0225: 1, S0134: 1, H0583: 1, H0657:		

270	HMJAK70	610099	280	273 - 305	784		1, S0212: 1, S0282: 1, S0046: 1, H0550: 1, H0431: 1, H0013: 1, H0042: 1, H0590: 1, S0010: 1, H0318: 1, H0046: 1, H0009: 1, H0050: 1, H0242: 1, S0388: 1, S0028: 1, H0271: 1, H0031: 1, H0644: 1, L0455: 1, L0370: 1, T0042: 1, H0560: 1, H0538: 1, L3904: 1, L0804: 1, L0653: 1, L0776: 1, L0659: 1, L0787: 1, H0547: 1, H0648: 1, H0539: 1, L0745: 1 and S0242: 1.		
271	HMSBE04	709672	281	295 - 378	785		AR251: 4, AR052: 3, AR263: 3, AR265: 2, AR253: 2, AR309: 2, AR039: 2, AR096: 2, AR271: 2, AR186: 2, AR312: 1, AR053: 1, AR310: 1, AR213: 1, AR055: 1 H0391: 1		
272	HMSCL38	801919	282	120 - 227	786		AR060: 5, AR089: 2 S0002: 1 AR089: 13, AR060: 7 H0204: 1, H0009: 1 and S0002: 1.		
273	HMSCR69	843059	283	107 - 1249	787	Met-1 to Val-7, Gly-15 to Tyr-22, Glu-38 to Asp-49, Gly-87 to Leu-93, Ala-138 to Gly-147, Pro-164 to Asn-170, Ser-183 to Glu-194, Arg-245 to Ser-261, Glu-280 to Asn-288.	AR089: 14, AR060: 11 L0766: 9, L0731: 7, H0457: 6, L0777: 5, S0358: 4, S0354: 3, H0038: 3, L0439: 3, L0747: 3, L0588: 3, L0581: 3, H0653: 3, H0265: 2, S0222: 2, H0013: 2, H0135: 2, H0591: 2, H0616: 2, H0509: 2, S0002:		

274	HMSHC86	840402	284	37 - 318	788	Arg-32 to Gln-37,	<p>Arg-295 to Asp-315, Val-329 to Gln-343, Leu-367 to Pro-380.</p> <p>2, L0770: 2, L0769: 2, L0764: 2, L0775: 2, L0659: 2, H0670: 2, L0748: 2, L0740: 2, L0749: 2, L0750: 2, L0780: 2, H0667: 2, H0543: 2, S0134: 1, H0341: 1, S0212: 1, H0402: 1, S0442: 1, S0376: 1, S0444: 1, S0408: 1, S0045: 1, H0619: 1, H0645: 1, H0411: 1, H0370: 1, H0392: 1, H0643: 1, H0632: 1, H0156: 1, H0599: 1, H0098: 1, S0010: 1, S0665: 1, S0346: 1, H0381: 1, T0110: 1, L0040: 1, H0545: 1, L0471: 1, H0355: 1, H0179: 1, S0316: 1, S0003: 1, S0214: 1, H0615: 1, H0031: 1, H0553: 1, H0035: 1, H0068: 1, H0634: 1, H0063: 1, H0551: 1, T0067: 1, H0494: 1, T0090: 1, S0144: 1, H0529: 1, L0520: 1, L0763: 1, L0761: 1, L0803: 1, L0384: 1, L0530: 1, L0666: 1, L0663: 1, L0664: 1, L0665: 1, H0144: 1, H0593: 1, S0126: 1, H0682: 1, H0435: 1, H0658: 1, H0648: 1, H0521: 1, S0188: 1, H0436: 1, H0345: 1, S3012: 1, S3014: 1, L0744: 1, L0786: 1, L0752: 1, L0755: 1, H0343: 1, S0436: 1, L0591: 1, L0608: 1, L0366: 1 and S0242: 1, S0002: 4</p>
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275	HMSHU20	847410	285	50 - 391	789	Arg-68 to Phe-73. Ser-2 to Trp-7 Gln-44 to Lys-53, Ser-80 to Gly-88.	AR248: 12, AR253: 10, AR089: 9, AR249: 8, AR310: 7, AR251: 7, AR312: 7, AR060: 7, AR265: 6, AR309: 6, AR271: 6, AR273: 6, AR096: 5, AR055: 5, AR213: 4, AR052: 4, AR053: 4, AR061: 4, AR033: 4, AR186: 4, AR039: 4, AR104: 3, AR205: 3, AR243: 3, AR246: 3, AR202: 3, AR206: 1, AR263: 1, AR194: 1 S0278: 8, S0344: 5, L0740: 3, H0250: 2, S0142: 2, L0774: 2, L0749: 2, S0116: 1, H0581: 1, H0031: 1, H0063: 1, S0144: 1, S0002: 1, L0800: 1, L0744: 1, L0777: 1 and H0653: 1.		
276	HMSHY25	886183	286	656 - 763	790	His-1 to Gln-6, Glu-28 to Pro-35.	AR060: 4, AR089: 2 S0002: 1 and S0426: 1.		
277	HMTAB77	847411	287	769 - 915	791	Gly-3 to Thr-8.	AR245: 4, AR308: 3, AR243: 3, AR253: 3, AR205: 3, AR254: 3, AR104: 3, AR039: 2, AR312: 2, AR201: 2, AR089: 2, AR212: 2, AR096: 2, AR213: 1, AR264: 1, AR060: 1, AR263: 1 H0436: 65, L0747: 25, H0821: 12, L0754: 11, L0471: 7, L0439: 7, S0358: 6, S0360: 5, L0809: 5.		

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	H0520: 5, L0731: 5, L0757: 5, L0599: 5, H0580: 4, H0581: 4, S0003: 4, H0551: 4, S0440: 4, L0775: 4, L0517: 4, H0547: 4, H0519: 4, H0539: 4, L0750: 4, S0436: 4, H0624: 3, H0717: 3, H0575: 3, H0373: 3, H0428: 3, H0090: 3, H0616: 3, H0529: 3, L0803: 3, H0144: 3, H0518: 3, L0744: 3, L0752: 3, L0758: 3, S0192: 3, H0171: 2, H0716: 2, S0001: 2, H0669: 2, S0418: 2, S0420: 2, L0562: 2, S0356: 2, S0442: 2, S0354: 2, S0444: 2, H0393: 2, S0222: 2, H0592: 2, H0586: 2, H0333: 2, T0040: 2, H0156: 2, S0049: 2, H0052: 2, H0046: 2, H0457: 2, H0687: 2, L0455: 2, H0040: 2, H0412: 2, H0560: 2, S0208: 2, S0422: 2, L0520: 2, L0770: 2, L0769: 2, L0764: 2, L0648: 2, L0662: 2, L0794: 2, L0518: 2, L0783: 2, L0789: 2, H0658: 2, S0152: 2, S0406: 2, H0555: 2, L0748: 2, L0740: 2, L0759: 2, H0445: 2, S0434: 2, L0362: 2, S0026: 2, S0194: 2, H0542: 2, H0543: 2, S0424: 2, H0352: 2, H0149: 1, S0040: 1, H0583: 1, L0453: 1, H0341: 1, S0212: 1, H0671: 1, H0663: 1, H0638: 1,
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278	HMUAE26	747403	288	710 - 802	792	Ser-25 to Arg-30.	L0594: 1, S0196: 1 and S0412: 1. AR089: 13, AR060: 9 H0305: 3, L0743: 3, H0620: 2, H0617: 2, L0770: 2, L0794: 2, L0384: 2, L0666: 2, L0777: 2, L0591: 2, L0595: 2, H0556: 1, S0358: 1, S0045: 1, H0497: 1, H0493: 1, H0618: 1, H0318: 1, H0581: 1, H0012: 1, H0014: 1, T0010: 1, H0292: 1, S0250: 1, H0615: 1, H0428: 1, H0087: 1, L0351: 1, H0132: 1, H0529: 1, L0761: 1, L0644: 1, L0375: 1, L0524: 1, L0653: 1, L0655: 1, L0656: 1, L0659: 1, L0809: 1, L0791: 1, H0520: 1, H0547: 1, H0690: 1, H0682: 1, H0670: 1, H0672: 1, H0555: 1, L0749: 1, L0779: 1, L0780: 1, L0731: 1, H0445: 1, H0653: 1, S0192: 1 and H0542: 1.	
279	HMUAN45	833072	289	239 - 922	793	Pro-33 to Gly-45, Cys-121 to Gly-131, Ala-155 to His-166, Gly-180 to Gln-185.	AR311: 142, AR272: 136, AR308: 126, AR104: 116, AR264: 98, AR212: 96, AR061: 75, AR055: 74, AR060: 74, AR201: 60, AR033: 56, AR263: 53, AR312: 34, AR197: 33, AR089: 33, AR250: 27, AR207: 26, AR096: 26, AR309: 25, AR053: 25, AR252: 24, AR213: 20, AR205: 15, AR245: 14,	

280	HMVBC31	825598	290	1437 - 1559	794	Ser-33 to Tyr-39.	AR204: 12, AR246: 11, AR254: 11, AR198: 11, AR271: 9, AR253: 9, AR039: 9, AR243: 4, AR310: 1 H0271: 5, H0083: 3, L0794: 3, H0656: 2, H0457: 2, H0179: 2, L0791: 2, H0521: 2, L0744: 2, H0707: 2, H0265: 1, H0656: 1, H0657: 1, H0449: 1, H0580: 1, S0046: 1, H0411: 1, H0437: 1, H0333: 1, H0486: 1, H0250: 1, S6028: 1, H0615: 1, H0628: 1, L0055: 1, H0040: 1, H0634: 1, S0144: 1, H0529: 1, L0769: 1, L0768: 1, L0766: 1, L0803: 1, L0653: 1, L0793: 1, L0666: 1, S0052: 1, H0689: 1, H0522: 1, H0436: 1, L0743: 1, L0749: 1, L0779: 1, H0445: 1 and H0542: 1 AR060: 2, AR089: 1 L0748: 10, H0556: 5, L0438: 4, L0754: 4, H0050: 3, H0040: 3, L0769: 3, L0806: 3, L0439: 3, L0757: 3, L0759: 3, L0601: 3, T0002: 2, S0418: 2, S0358: 2, S0360: 2, H0580: 2, H0549: 2, H0644: 2, H0529: 2, L0773: 2, L0768: 2, L0766: 2, L0776: 2, L0783: 2, L0663: 2, L0740: 2, L0747: 2, L0749: 2, S0212: 1, H0484: 1, H0661: 1,
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281	HMVDU15	801969	291	274 - 351	795	<p>S0376: 1, S0007: 1, H0643: 1, L0622: 1, H0013: 1, H0042: 1, H0052: 1, L0157: 1, L0471: 1, H0373: 1, H0083: 1, H0266: 1, T0006: 1, H0090: 1, H0268: 1, H0494: 1, H0509: 1, H0633: 1, H0646: 1, S0002: 1, L0761: 1, L0772: 1, L0643: 1, L0644: 1, L0794: 1, L0805: 1, L0659: 1, L0809: 1, H0690: 1, H0658: 1, S0328: 1, S0330: 1, S0152: 1, H0521: 1, H0696: 1, S0044: 1, S0027: 1, L0780: 1, L0752: 1, L0753: 1, L0755: 1, S0434: 1, L0485: 1, H0667: 1, S0276: 1 and S0456: 1.</p> <p>AR089: 13, AR060: 9 H0436: 20, L0748: 6, L0750: 6, H0100: 3, H0144: 3, L0755: 3, H0657: 2, H0009: 2, L0804: 2, L0666: 2, S0380: 2, L0740: 2, L0752: 2, L0731: 2, L0759: 2, H0713: 1, H0341: 1, S0212: 1, H0661: 1, H0450: 1, H0125: 1, S0408: 1, H0208: 1, S0046: 1, S0222: 1, H0486: 1, H0545: 1, H0024: 1, H0622: 1, T0023: 1, H0031: 1, H0032: 1, H0316: 1, T0067: 1, H0561: 1, H0132: 1, L0763: 1, L0769: 1, L0638: 1, L0772: 1, L0764: 1, L0765: 1, L0771: 1, L0794: 1, L0803:</p>
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282	HMWBL03	822861	292	137 - 1327	796	Met-1 to Leu-11, Val-13 to Lys-19, Thr-30 to Asp-39, Thr-49 to Gly-68, Ala-78 to Gly-111, Pro-140 to Thr-163, Ser-169 to Ser-185, Glu-197 to Lys-204, Lys-210 to Asp-215, Glu-220 to Ser-231, Ser-255 to Leu-266, Thr-269 to Asp-288, Cys-300 to Val-309, Phe-331 to Cys-339, Ser-362 to Ile-373.	1, L0774: 1, L0655: 1, L0382: 1, H0689: 1, H0435: 1, S0330: 1, H0696: 1, L0747: 1, L0758: 1, L0608: 1 and S001: 1.
283	HMWJF53	758158	293	1015 - 1131	797	AR089: 5, AR060: 4 L0766: 7, H0341: 5, S0356: 5, S0422: 5, H0543: 5, H0591: 4, H0656: 3, S0354: 3, H0013: 3, T0042: 3, H0659: 3, L0748: 3, L0750: 3, L0777: 3, S0418: 2, S0444: 2, L0471: 2, H0040: 2, H0063: 2, H0494: 2, L0646: 2, L0626: 2, L0806: 2, L0655: 2, L0663: 2, S0374: 2, H0547: 2, S0206: 2, L0756: 2, L0588: 2, H0624: 1, H0171: 1, H0556: 1, S0342: 1, H0650: 1, S0442: 1, S0360: 1, S0410: 1, T0008: 1, S0046: 1, H0257: 1, H0263: 1, L0738: 1, H0046: 1, L0157: 1, H0039: 1, H0068: 1, H0135: 1, H0090: 1, T0041: 1, H0560: 1, S0440: 1, H0529: 1, L0640: 1, L0771: 1, L0768: 1, L0634: 1, L0529: 1, L0666: 1, L0665: 1, H0520: 1, H0519: 1, S0328: 1, S0152: 1, S0406: 1, L0751: 1, L0747: 1, L0759: 1, S0436: 1, L0591: 1, L0608: 1, H0542: 1 and H0423: 1.	H0255: 7, H0318: 5, H0620: 5, L0754: 5, L0766:

Abstract

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284	HNE/AK81	722235	294	288 - 359	798	L, H0698: 1, S0374: 1, L0438: 1, H0684: 1, H0658: 1, H0670: 1, S0328: 1, S0380: 1, H0134: 1, S0406: 1, L0743: 1, L0749: 1, L0750: 1, L0779: 1, L0759: 1, S0031: 1, H0445: 1, H0653: 1, S0194: 1, S0276: 1, H0542: 1 and S0460: 1, H0179: 1		
285	HNE/CL22	799541	295	472 - 576	799	AR089: 7, AR060: 5 L0748: 47, L0766: 20, L0754: 18, L0771: 12, L0750: 10, L0761: 9, S0116: 8, H0179: 8, L0744: 8, H0457: 7, L0794: 7, H0144: 7, S0356: 6, L0438: 6, L0743: 6, L0751: 6, L0745: 6, L0779: 6, H0271: 5, H0305: 4, H0421: 4, H0050: 4, L0769: 4, L0771: 4, L0803: 4, L0805: 4, L0776: 4, S0428: 4, L0758: 4, L0603: 4, H0393: 3, H0549: 3, H0497: 3, H0013: 3, H0599: 3, H0591: 3, L0800: 3, L0773: 3, L0666: 3, S0052: 3, H0436: 3, S0028: 3, L0749: 3, L0759: 3, H0542: 3, H0402: 2, S0354: 2, S0045: 2, H0575: 2, H0590: 2, H0024: 2, H0031: 2, H0553: 2, H0674: 2, H0087: 2, H0494: 2, L0774: 2, L0659: 2, L0809: 2, L0792: 2, L0664: 2, H0518: 2, L0747: 2, L0752: 2, L0599: 2, H0171: 1, H0583:		

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286	HNECW49	639117	296	316 - 489	800	Cys-21 to Trp-26, Val-37 to Ser-53.
287	HNEDH88	815675	297	70 - 171	801	Lys-22 to Gly-27.
288	HNFA50	815676	298	676 - 774	802	Lys-7 to Glu-18.

289	HNFGR08	825417	299	314 - 445	803	<p>L0756: 4, L0769: 3, L0774: 3, H0624: 2, S0444: 2, H0587: 2, L0764: 2, L0766: 2, H0170: 1, H0497: 1, H0333: 1, H0156: 1, L0022: 1, H0271: 1, L0637: 1, L0772: 1, L0662: 1, L0775: 1, L0791: 1, H0144: 1, S0374: 1, H0593: 1, H0660: 1, H0672: 1, H0696: 1, L0749: 1, L0750: 1, L0779: 1, L0752: 1, L0755: 1, L0599: 1, L0601: 1 and H0667: 1.</p>		
290	HNFHF34	722237	300	178 - 270	804	<p>AR060: 4, AR089: 2, H0271: 1, AR060: 21, AR089: 17, L0803: 12, H0581: 8, S0358: 6, H0046: 6, H0428: 6, S0356: 5, S0007: 5, H0031: 4, L0666: 4, L0665: 4, H0271: 3, H0038: 3, L0794: 3, L0804: 3, H0693: 3, S0406: 3, L0756: 3, L0758: 3, L0592: 3, S0116: 2, S0444: 2, H0431: 2, H0386: 2, H0486: 2, L0471: 2, H0615: 2, H0039: 2, S0036: 2, H0616: 2, S0422: 2, H0529: 2, L0770: 2, L0521: 2, L0662: 2, L0776: 2, L0787: 2, L0663: 2, L0438: 2, H0670: 2, H0660: 2, S0328: 2, S0330: 2, H0436: 2, L0748: 2, L0755: 2, L0485: 2, L0599: 2, S0192: 2, H0423: 2, H0624: 1, S0342: 1, S0114: 1.</p>		

291	HNGAK51	603910	301	248 - 346	805		H0650: 1, H0657: 1, H0638: 1, S0354: 1, S0360: 1, S0408: 1, S0410: 1, H0329: 1, S0045: 1, S0046: 1, S0278: 1, H0441: 1, H0497: 1, H0331: 1, T0109: 1, S0280: 1, H0705: 1, H0318: 1, S0474: 1, T0110: 1, H0565: 1, H0572: 1, H0050: 1, H0687: 1, S0003: 1, H0553: 1, H0488: 1, H0412: 1, T0041: 1, H0494: 1, S0438: 1, S0440: 1, S0144: 1, H0517: 1, L0763: 1, L0772: 1, L0372: 1, L0800: 1, L0764: 1, L0364: 1, L0649: 1, L0774: 1, L0523: 1, L0805: 1, L0655: 1, L0807: 1, L0527: 1, L0659: 1, L0783: 1, L0809: 1, L0664: 1, S0428: 1, S0053: 1, H0144: 1, S0374: 1, H0520: 1, H0519: 1, S0126: 1, H0682: 1, H0435: 1, H0648: 1, H0672: 1, S0378: 1, H0521: 1, S0044: 1, H0478: 1, H0627: 1, H0631: 1, S0027: 1, L0439: 1, L0740: 1, L0747: 1, L0749: 1, L0777: 1, L0752: 1, H0445: 1, S0436: 1, L0591: 1, S0196: 1, H0543: 1, S0424: 1, S0462: 1, S0446: 1 and H0506: 1.
292	HNGAM58	68814	302	68 - 412	806	Ttp-31 to Arg-39, Ala-50 to Ttp-57,	AR089: 26, AR060: 14 S0052: 1 AR089: 35, AR060: 16 S0052: 1

293	HNGBH53	532614	303	47 - 187	807	Lys-83 to Leu-93, Pro-103 to Gly-113, Asn-14 to Glu-24,	AR060: 7, AR089: 4 S0052: 1		
294	HNGDO38	825389	304	205 - 384	808	Pro-28 to Arg-33,	AR251: 5, AR060: 4, AR052: 4, AR254: 3, AR055: 3, AR312: 3, AR272: 3, AR271: 3, AR244: 3, AR061: 3, AR198: 3, AR053: 3, AR089: 3, AR201: 3, AR264: 3, AR096: 2, AR309: 2, AR249: 2, AR311: 2, AR310: 2, AR033: 2, AR265: 2, AR197: 2, AR253: 2, AR104: 2, AR213: 1, AR308: 1, AR273: 1, AR194: 1, AR039: 1, AR252: 1, AR205: 1 S0052: 4, L0766: 3, H0255: 2, H0402: 2, H0620: 2, H0024: 2, L0754: 2, H0656: 1, H0484: 1, H0254: 1, S0360: 1, H0208: 1, H0393: 1, S0222: 1, H0618: 1, H0194: 1, H0457: 1, H0123: 1, H0051: 1, H0271: 1, H0182: 1, H0063: 1, H0087: 1, L0351: 1, T0042: 1, S0448: 1, L0761: 1, L0378: 1, L0805: 1, L0655: 1, H0539: 1, S0188: 1, S0146: 1, H0543: 1 and H0423: 1.		
295	HNGDX18	1145071	305	237 - 965	809	Ser-21 to Ser-39, Gln-45 to Gln-61, Cys-124 to Ser-139.			
		866177	513	231 - 629	1017	Ser-21 to Ser-39, Gln-45 to Gln-61, Cys-124 to Gly-130.			

296	HNGDY34	566863	306	73 - 126	810		AR251: 7, AR060: 6, AR246: 6, AR206: 3, AR205: 3, AR309: 3, AR089: 3, AR055: 3, AR052: 3, AR312: 3, AR053: 3, AR243: 2, AR186: 2, AR202: 2, AR061: 2, AR033: 2, AR213: 2, AR265: 2, AR198: 2, AR244: 2, AR233: 2, AR310: 2, AR096: 2, AR039: 1, AR194: 1, AR104: 1 S0052: 1
297	HNGEA34	815678	307	58 - 192	811	His-26 to Ser-32.	AR060: 5, AR089: 3 H0393: 1 and S0052: 1.
298	HNGEQ75	535723	308	30 - 98	812		H0052: 2, H0406: 1, S0052: 1 and L0439: 1.
299	HNGGA68	638116	309	184 - 282	813	Ala-8 to Gly-20.	AR060: 6, AR089: 3 H0419: 1, H0305: 1 and S0052: 1.
300	HNGGP65	597449	310	181 - 387	814		AR089: 9, AR060: 8 S0052: 1
301	HNGHZ69	899289	311	25 - 54	815		H0445: 2 and S0052: 1.
302	HNGIV64	561572	312	221 - 247	816		AR060: 8, AR089: 6 S0052: 1
303	HNGIB41	852178	313	252 - 473	817		AR060: 6, AR089: 3 S0052: 1
304	HNGKT741	836061	314	415 - 552	818		AR060: 6, AR089: 3 S0428: 1
305	HNGMW45	838613	315	452 - 583	819		S0428: 1
306	HNGNK44	834949	316	611 - 835	820	Ser-41 to Ser-48, Arg-61 to Trp-68.	AR060: 5, AR089: 2 L0581: 2 and S0428: 1.
307	HNGNO53	836063	317	467 - 571	821		AR060: 6, AR089: 4 S0428: 2 and L0439: 1.
308	HNGPI25	834942	318	544 - 621	822		AR060: 7, AR089: 3 H0251: 8, H0624: 4, H0171: 1 and S0428: 1.

309	HNHEN82	836157	319	78 - 131	823			AR060: 4, AR089: 2 S0053: 1	
310	HNHFE71	834487	320	598 - 663	824			AR060: 8, AR089: 4 S0053: 1	
311	HNHKG22	597451	321	239 - 433	825			AR060: 7, AR089: 4 S0053: 2	
312	HNHHB10	634589	322	215 - 394	826	Pro-40 to Tyr-46.		AR089: 20, AR264: 11, AR060: 11, AR096: 8, AR312: 7, AR212: 7, AR052: 6, AR213: 6, AR263: 5, AR311: 5, AR053: 5, AR198: 5, AR308: 5, AR309: 5, AR272: 5, AR250: 5, AR039: 4, AR104: 4, AR244: 4, AR265: 4, AR271: 4, AR197: 4, AR273: 4, AR243: 4, AR033: 4, AR207: 4, AR254: 4, AR248: 3, AR204: 3, AR310: 3, AR249: 3, AR186: 3, AR202: 3, AR201: 3, AR253: 3, AR205: 2, AR246: 2, AR206: 2, AR251: 1, AR245: 1, AR252: 1, AR055: 1, AR061: 1 H0059: 1 and S0053: 1, L0789: 2, H0616: 1, S0216: 1 and L0758: 1.	
313	HNHKS19	778392	323	192 - 317	827	Pro-23 to Gln-34.		AR089: 4 H0436: 8, L0666: 5, L0748: 5, L0766: 4, L0803: 4, H0670: 4, L0740: 4, L0755: 4, L0759: 4, H0170: 3, S0002: 3, L0665: 3, L0439: 3, L0745: 3, L0731:	
314	HNHBT17	855957	324	91 - 111	828				

315	HNTMH79	801921	325	48 - 164	829	<p>3, H0423: 3, H0656: 2, H0692: 2, S0360: 2, S0280: 2, S0474: 2, H0581: 2, H0179: 2, H0591: 2, H0634: 2, S0440: 2, L0662: 2, L0794: 2, L0774: 2, L0775: 2, L0790: 2, L0438: 2, H0547: 2, H0690: 2, S0152: 2, L0751: 2, L0749: 2, L0756: 2, L0779: 2, H0543: 2, H0422: 2, H0716: 1, H0650: 1, H0663: 1, S0356: 1, S0354: 1, H0729: 1, H0431: 1, H0587: 1, H0574: 1, H0156: 1, L002: 1, 1, S0003: 1, H0031: 1, H0553: 1, L0351: 1, S0344: 1, H0538: 1, L0640: 1, L0770: 1, L0667: 1, L0800: 1, L0764: 1, L0805: 1, L0776: 1, L0661: 1, L0527: 1, L0657: 1, L0659: 1, L0782: 1, L0792: 1, L0664: 1, S0052: 1, S0428: 1, H0144: 1, S0374: 1, H0519: 1, H0659: 1, H0638: 1, H0648: 1, H0672: 1, H0710: 1, H0521: 1, H0696: 1, L0744: 1, L0746: 1, L0750: 1, L0780: 1, S0434: 1, L0485: 1, L0362: 1, S0026: 1, L0718: 1 and S0424: 1, AR089: 14, AR060: 5 L0748: 16, L0809: 10, L0747: 10, L0777: 7, L0717: 6, L0766: 6, L0794: 5, L0745: 5, S0360: 4, H0457: 4, L0771: 4, L0749: 4,</p>
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316	HOABP31	835084	326	148 - 519	830	Cys-22 to Ser-27.	L0731: 4, L0759: 4, H0395: 3, H0305: 3, H0393: 3, H0318: 3, L0764: 3, L0804: 3, L0776: 3, L0655: 3, L0666: 3, L0744: 3, L0439: 3, L0750: 3, L0758: 3, S0116: 2, H0402: 2, H0586: 2, S0440: 2, H0529: 2, L0770: 2, L0775: 2, L0806: 2, H0672: 2, H0436: 2, L0779: 2, H0643: 2, L0615: 1, H0556: 1, H0685: 1, S0218: 1, H0449: 1, S0222: 1, H0592: 1, H0333: 1, H0486: 1, H0013: 1, H0052: 1, H0123: 1, H0081: 1, H0050: 1, H0057: 1, H0687: 1, H0119: 1, H0553: 1, H0124: 1, H0135: 1, H0634: 1, H0063: 1, H0560: 1, H0561: 1, S0438: 1, S0422: 1, L0769: 1, L0638: 1, L0637: 1, L0761: 1, L0646: 1, L0800: 1, L0662: 1, L0803: 1, L0807: 1, L0659: 1, L0783: 1, L0790: 1, L0665: 1, H0520: 1, H0593: 1, H0689: 1, H0659: 1, S0380: 1, H0576: 1, L0743: 1, L0746: 1, L0755: 1, H0445: 1, L0589: 1, L0485: 1 and H0423: 1.
317	HOABP31	868327	327	148 - 522	831	Cys-22 to Ser-27.	AR089: 39, AR060: 20
318	HOACG07	792928	328	778 - 1149	832	Pro-32 to Ser-42, Cys-51 to Gly-83,	AR202: 138, AR194: 120, AR198: 98, AR244: 88,

319	HODAG07	655356	329	43 - 174	833	Tyr-37 to Leu-43.	1, T0023: 1, T0006: 1, H0628: 1, H0163: 1, H0040: 1, H0623: 1, L0351: 1, H0494: 1, S0440: 1, H0646: 1, S0210: 1, S0426: 1, H0529: 1, L0372: 1, L0646: 1, L0645: 1, L0764: 1, L0662: 1, L0767: 1, L0766: 1, L0803: 1, L0776: 1, L0655: 1, L0382: 1, L0809: 1, L0789: 1, H0520: 1, H0547: 1, H0435: 1, H0670: 1, H0672: 1, H0651: 1, H0627: 1, S0027: 1, L0741: 1, L0751: 1, L0750: 1, L0753: 1, L0757: 1, L0758: 1, L0759: 1, S0436: 1, H0668: 1 and H0543: 1.		
320	HODBE70	520196	330	173 - 256	834		AR089: 13, AR060: 10 H0328: 1 and L0748: 1. AR060: 5, AR089: 3 H0328: 1, L0789: 1, L0742: 1 and L0459: 1.		
321	HODBV05	825283	331	101 - 202	835		AR060: 8, AR089: 6 L0766: 2, L0439: 2, H0171: 1, H0346: 1, H0549: 1, H0052: 1, H0328: 1, H0553: 1, H0038: 1, H0538: 1, L0792: 1, H0519: 1, H0553: 1, L0779: 1 and L0758: 1.		
322	HODCZ32	836069	332	248 - 280	836		AR089: 28, AR060: 14 H0328: 1		
323	HOEBK60	789396	333	1714 - 1845	837	Lys-5 to Thr-10, Gln-36 to Gly-43.	AR089: 8, AR060: 7 L0731: 7, L0005: 6, L0766: 4, L0655: 4, L0659: 4, L0756: 4, L0803: 3, H0648: 3, L0777: 3, S0358: 2.		

324	HOFAA78	836646	334	48 - 263	838	Trp-1 to Arg-7, Pro-65 to Gly-70.	H0414: 1	S0408: 2, L0021: 2, H0014: 2, T0010: 2, L0143: 2, H0641: 2, L0638: 2, L0662: 2, L0794: 2, L0776: 2, L0657: 2, L0809: 2, L0666: 2, L0663: 2, L0751: 2, L0755: 2, L0758: 2, L0588: 2, H0543: 2, H0170: 1, H0657: 1, S0212: 1, H0661: 1, H0663: 1, S0420: 1, S0360: 1, L0717: 1, L0586: 1, L0105: 1, H0318: 1, H0581: 1, H0052: 1, H0309: 1, L0157: 1, L0471: 1, H0024: 1, H0354: 1, S0003: 1, H0328: 1, H0615: 1, H0169: 1, H0163: 1, H0090: 1, H0272: 1, T0041: 1, S0440: 1, S0142: 1, S0210: 1, L0372: 1, L0645: 1, L0764: 1, L0651: 1, L0656: 1, L0789: 1, L0665: 1, S0126: 1, H0682: 1, H0435: 1, H0659: 1, S0380: 1, H0518: 1, H0696: 1, L0439: 1, L0740: 1, L0746: 1, L0750: 1, L0779: 1, L0752: 1 and S0260: 1.		
325	HOFNB74	762821	335	138 - 257	839	Ser-30 to Ser-36.	AR089: 7, AR060: 5 H0415: 1			
326	HOFNU55	897611	336	230 - 385	840		AR089: 30, AR060: 18 H0415: 2			
327	HOCBF01	772573	337	309 - 371	841		H0435: 1			
328	HOBBS82	638293	338	21 - 140	842	Gly-30 to Ser-35.	L0809: 2, S0360: 1, L0623: 1, H0122: 1, H0706: 1, H0041: 1, H0095: 1, H0292:			

329	HORBV76	839270	339	183 - 779	843	Gly-25 to Leu-38, Asp-56 to Gly-65, Ser-115 to Lys-121.	1, H0424: 1, L0794: 1, L0787: 1, L0663: 1, H0435: 1, L0743: 1, L0747: 1 and L0731: 1.		
330	HOSDO75	862049	340	88 - 174	844	Phe-2 to Ser-8, Phe-21 to Ser-26.	AR060: 7, AR089: 4 S0278: 2, L0608: 2, H0686: 1, H0266: 1, H0292: 1, H0031: 1, H0560: 1, L0065: 1, S0344: 1, L0638: 1, L0662: 1, L0794: 1, L0803: 1, L0659: 1, L0665: 1, L0747: 1, L0749: 1 and L0780: 1.		
331	HOSEC25	688055	341	17 - 91	845	Thr-19 to Cys-24.	AR060: 6, AR089: 3 L0766: 6, L0748: 6, L0740: 6, L0776: 4, S0358: 2, S0003: 2, S0344: 2, L0638: 2, L0805: 2, L0438: 2, S0380: 2, H0521: 2, L0754: 2, L0747: 2, L0752: 2, L0755: 2, L0362: 2, H0624: 1, L0005: 1, S0045: 1, S0046: 1, H0375: 1, S0010: 1, H0266: 1, H0269: 1, T0042: 1, S0150: 1, L0369: 1, L0770: 1, L0761: 1, L0794: 1, L0656: 1, L0787: 1, L0789: 1, L0665: 1, H0670: 1, H0660: 1, L0439: 1, L0749: 1, L0779: 1, L0777: 1, L0759: 1, H0445: 1, H0343: 1, L0591: 1, S0192: 1 and H0543: 1.		
332	HOSEI81	562778	342	203 - 454	846	Lys-70 to Asn-76.	AR089: 31, AR060: 13 S0214: 1, L0776: 1, S0152: 1 and H0521: 1.		
							AR060: 5, AR089: 3 L0777: 2, S0214: 1 and		

333	H05E094	795132	343	848 - 934	847	<p>H0539: 1, AR089: 16, AR060: 12 H0547: 9, L0731: 9, H0038: 7, S0003: 6, L0766: 6, S0126: 5, L0758: 5, H0657: 4, L0598: 4, L0774: 4, L0439: 4, L0752: 4, H0624: 3, H0486: 3, H0040: 3, L0775: 3, L0438: 3, H0539: 3, S0152: 3, L0745: 3, L0594: 3, L0362: 3, H0170: 2, S0040: 2, H0650: 2, H0656: 2, S0116: 2, S0046: 2, H0497: 2, H0575: 2, H0036: 2, H0622: 2, H0591: 2, H0623: 2, S0440: 2, H0641: 2, S0344: 2, S0210: 2, S0426: 2, H0529: 2, L0770: 2, L0651: 2, L0555: 2, L0776: 2, L0655: 2, L0665: 2, H0435: 2, S0330: 2, L0740: 2, L0777: 2, L0587: 2, S0412: 2, H0394: 1, H0556: 1, S0342: 1, S0134: 1, S0218: 1, L0002: 1, H0663: 1, S0358: 1, S0360: 1, S0045: 1, S0476: 1, H0550: 1, S0222: 1, H0441: 1, H0415: 1, H0574: 1, H0635: 1, H0590: 1, H0318: 1, S0474: 1, H0251: 1, T0115: 1, H0563: 1, H0024: 1, H0014: 1, L0163: 1, H0083: 1, H0594: 1, S0214: 1, H0328: 1, H0644: 1, L0055: 1, H0673: 1, H0674: 1, H0616: 1, H0551: 1, H0412: 1, H0413:</p>
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334	HOUCA21	653359	344	200 - 301	848		1, T0042: 1, H0494: 1, H0561: 1, S0438: 1, S0422: 1, UNKNWN: 1, L0520: 1, L0625: 1, L0637: 1, L0627: 1, L0772: 1, L0764: 1, L0773: 1, L0521: 1, L0662: 1, L0768: 1, L0522: 1, L0650: 1, L0375: 1, L0806: 1, L0656: 1, L0790: 1, L4501: 1, L0666: 1, L0663: 1, L0664: 1, S0216: 1, S0374: 1, H0659: 1, H0660: 1, H0672: 1, S0328: 1, H0696: 1, H0478: 1, S3012: 1, S0027: 1, S0028: 1, L0750: 1, L0753: 1, L0759: 1, H0445: 1, L0896: 1, L0592: 1, L0608: 1, L0361: 1, S0192: 1, H0423: 1 and L0697: 1.
335	HOUD92	580866	345	70 - 336	849	Pro-22 to His-31, Ser-80 to Gln-88.	S0040: 1, T0042: 1 and S0292: 1, H0052: 17, L0745: 11, L0748: 10, H0547: 7, L0439: 7, L0755: 6, L0771: 5, L0774: 5, L0662: 4, L0746: 4, L0777: 4, L0163: 3, H0059: 3, H0100: 3, L0775: 3, L0741: 3, H0261: 2, H0333: 2, H0194: 2, H0545: 2, H0012: 2, H0617: 2, H0135: 2, L0770: 2, L0665: 2, L0438: 2, H0520: 2, L0747: 2, L0752: 2, L0753: 2, S0040: 1, L0717: 1, H0437: 1, H0550: 1, S6016: 1, H0497: 1, H0574: 1, H0599: 1, H0575: 1.

336	HOUDR07	745404	346	170 - 367	850	Pro-27 to Arg-34.	H0618: 1, H0253: 1, H0041: 1, H0620: 1, H0373: 1, H0188: 1, H0124: 1, H0068: 1, H0040: 1, H0561: 1, S0448: 1, S0210: 1, L0763: 1, L0644: 1, L0767: 1, L0768: 1, L0375: 1, L0651: 1, L0659: 1, L0540: 1, H0144: 1, H0593: 1, S0126: 1, H0539: 1, S0152: 1, H0694: 1, S0590: 1, S0028: 1, L0749: 1, L0786: 1, L0731: 1, L0757: 1, L0758: 1, L0592: 1 and S0276: 1. AR197: 30, AR207: 25, AR263: 18, AR311: 17, AR039: 15, AR271: 15, AR309: 15, AR061: 15, AR245: 15, AR201: 14, AR308: 13, AR213: 13, AR198: 13, AR264: 12, AR212: 12, AR205: 11, AR312: 11, AR243: 11, AR246: 11, AR053: 10, AR204: 10, AR089: 10, AR055: 9, AR272: 9, AR033: 9, AR254: 8, AR096: 7, AR252: 7, AR253: 7, AR104: 7, AR250: 6, AR060: 6, S0212: 8, H0599: 4, H0713: 3, S0312: 3, H0622: 3, H0628: 3, S0040: 2, H0717: 2, S0132: 2, H0587: 2, H0635: 2, T0010: 2, H0266: 2, S0314: 2, H0553: 2, L0740: 2, L0755: 2, L0757: 2, L0603: 2, H0668:
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337	HOUED72	858547	347	144 - 179	851		2, S0116: 1, H0661: 1, H0728: 1, S0045: 1, S0046: 1, S0476: 1, H0456: 1, H0549: 1, H0431: 1, H0592: 1, H0632: 1, H0486: 1, H0427: 1, H0706: 1, H0590: 1, H0618: 1, H0705: 1, S0049: 1, H0024: 1, N0007: 1, H0510: 1, H0594: 1, H0124: 1, H0163: 1, H0551: 1, S0352: 1, S0438: 1, H0509: 1, H0647: 1, H0519: 1, H0555: 1, S0390: 1, S0028: 1, L0439: 1, L0731: 1, S0434: 1 and S0276: 1.	
338	HOUTS04	771564	348	520 - 738	852		AR089: 69, AR060: 43 S0040: 1 AR089: 14, AR060: 10 L0745: 16, S0414: 6, H0351: 5, H0013: 5, L0803: 5, H0144: 4, H0413: 3, H0519: 3, L0754: 3, L0759: 3, S0242: 3, H0624: 2, H0580: 2, S0045: 2, H0421: 2, H0375: 2, H0428: 2, H0553: 2, L0598: 2, L0775: 2, L0666: 2, L0664: 2, L0665: 2, H0520: 2, H0547: 2, S0126: 2, H0672: 2, S0380: 2, H0521: 2, L0743: 2, L0744: 2, L0605: 2, H0171: 1, H0556: 1, H0685: 1, S0040: 1, S0114: 1, H0657: 1, S0212: 1, S0444: 1, S0132: 1, H0619: 1, H0411: 1, S0278: 1, H0549: 1, S0222: 1, H0486: 1, S0280: 1, H0575: 1, L0105:	

339	HOUH25	888279	349	188 - 250	853		<p>1, H0581: 1, H0052: 1, H0545: 1, H0594: 1, S0028: 1, H0687: 1, S0250: 1, H0031: 1, S0364: 1, L0455: 1, H0124: 1, H0591: 1, H0038: 1, S0450: 1, L0763: 1, L0638: 1, L0637: 1, L0662: 1, L0794: 1, L0649: 1, L0654: 1, L0382: 1, L0792: 1, H0435: 1, H0518: 1, H0696: 1, H0436: 1, S0432: 1, S0390: 1, S0037: 1, S3014: 1, S0028: 1, S0124: 1, L0751: 1, L0756: 1, L0779: 1, L0777: 1, L0780: 1, L0752: 1, L0755: 1, S0031: 1, L0599: 1, S0196: 1, H0423: 1 and H0422: 1.</p> <p>AR060: 4, AR089: 3 S0436: 7, H0551: 6, H0599: 5, L0756: 5, L0758: 5, L0759: 5, L0754: 4, L0747: 4, H0545: 3, S0003: 3, L0375: 3, H0144: 3, L0755: 3, S0442: 2, S0045: 2, H0013: 2, L0471: 2, H0373: 2, H0051: 2, H0560: 2, L0768: 2, L0803: 2, L0659: 2, L0438: 2, L0439: 2, L0740: 2, L0750: 2, L0779: 2, L0757: 2, S0242: 2, H0624: 1, S0040: 1, S0342: 1, S0116: 1, S0212: 1, S0444: 1, H0357: 1, H0587: 1, L0021: 1, S0010: 1, L0105: 1, S0474: 1, H0544: 1, H0046: 1, S0051:</p>
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340	HOVBD85	827362	350	252 - 332	854			1, H0266: 1, H0622: 1, H0032: 1, H0388: 1, H0598: 1, H0413: 1, S0438: 1, H0641: 1, S0002: 1, L0662: 1, L0805: 1, L0809: 1, L0519: 1, L0663: 1, L0664: 1, H0520: 1, S0126: 1, L0753: 1, S0434: 1, L0599: 1, S0011: 1 and H0667: 1.		
341	HPCAB41	758003	351	184 - 261	855			AR060: 1 H0252: 1 and H0428: 1, AR060: 2, AR089: 2 L0754: 4, L0471: 1, L0662: 1, L0766: 1, H0521: 1, S0146: 1, L0758: 1 and H0422: 1.		
342	HPCAL26	762822	352	1021 - 1113	856			L0659: 11, S0126: 11, L0731: 11, S0192: 11, L0666: 9, L0777: 7, T0049: 5, S0358: 5, L0771: 5, L0757: 5, S0360: 4, S0440: 4, L0740: 4, L0758: 4, S0212: 3, S0356: 3, S0046: 3, H0369: 3, H0545: 3, L0662: 3, L0774: 3, L0809: 3, H0519: 3, L0752: 3, S0011: 3, H0295: 2, H0662: 2, S0468: 2, H0012: 2, H0024: 2, H0356: 2, H0616: 2, H0268: 2, H0412: 2, L0646: 2, L0803: 2, S0013: 2, L0754: 2, L0747: 2, L0759: 2, S0040: 1, S0418: 1, S0442: 1, S0376: 1, H0676: 1, L0717: 1, H0550: 1, S0222: 1, H0574: 1, L0021: 1, H0575: 1, H0036: 1, H0590: 1, H0618: 1.		

343	HPEAD23	773409	353	188 - 469	857	Ala-54 to Lys-59.	<p>T0048: 1, H0309: 1, H0596: 1, T0110: 1, H0546: 1, H0046: 1, H0123: 1, H0014: 1, S0003: 1, S0022: 1, H0428: 1, H0622: 1, H0031: 1, H0673: 1, L0455: 1, H0316: 1, H0598: 1, H0163: 1, H0038: 1, H0433: 1, H0413: 1, T0069: 1, S0438: 1, H0633: 1, H0647: 1, S0210: 1, L0770: 1, L0769: 1, L0768: 1, L0794: 1, L0519: 1, L0789: 1, L0790: 1, L0664: 1, L0665: 1, H0144: 1, S0330: 1, S0136: 1, H0696: 1, S3014: 1, S0206: 1, L0751: 1, L0749: 1, L0756: 1, L0779: 1, S0031: 1, S0242: 1, S0194: 1 and S0276: 1.</p> <p>AR089: 38, AR060: 30, H0585: 18, L0771: 4, L0775: 3, L0779: 3, S0408: 2, L0768: 2, S0374: 2, H0341: 1, S0358: 1, S0360: 1, H0574: 1, H0559: 1, H0156: 1, H0253: 1, S0182: 1, H0318: 1, H0545: 1, H0083: 1, H0165: 1, H0063: 1, S0440: 1, L0774: 1, L0776: 1, L0526: 1, H0648: 1, H0696: 1, S0406: 1, L0748: 1, L0749: 1, L0750: 1, L0752: 1 and S0031: 1, H0169: 1, H0130: 1 and L0606: 1.</p>
344	HPFBAS4	635539	354	258 - 395	858		
345	HPFCB6	855966	355	94 - 153	859		<p>AR089: 8, AR060: 6, L0591: 4, L0754: 3,</p>

346	HPFD37	862056	356	38 - 91	860	<p>H0450: 2, H0486: 2, H0046: 2, S0003: 2, H0494: 2, L0659: 2, S0126: 2, H0659: 2, L0750: 2, L0601: 2, H0170: 1, H0556: 1, H0657: 1, S0420: 1, S0354: 1, H0455: 1, H0403: 1, H0600: 1, H0013: 1, H0156: 1, H0599: 1, H0082: 1, S0214: 1, H0622: 1, H0031: 1, H0673: 1, H0169: 1, H0090: 1, H0038: 1, H0022: 1, H0560: 1, S0422: 1, L0643: 1, L0771: 1, L0773: 1, L0655: 1, L0807: 1, L0792: 1, L0665: 1, S0378: 1, H0518: 1, S0152: 1, H0521: 1, L0748: 1, L0749: 1, L0757: 1, L0759: 1, S0434: 1, L0596: 1, L0605: 1 and H0653: 1.</p>		
						<p>AR060: 4, AR089: 2, L0771: 13, L0752: 12, L0748: 9, L0731: 7, S0360: 6, L0769: 6, S0358: 5, H0318: 5, L0770: 5, L0747: 5, L0758: 5, L0599: 5, H0140: 4, H0545: 4, H0673: 4, L0774: 4, L0655: 4, L0659: 4, L0664: 4, L0665: 4, H0659: 4, H0648: 4, L0740: 4, L0754: 4, L0588: 4, H0662: 3, H0169: 3, H0413: 3, L0638: 3, L0775: 3, L0783: 3, L0666: 3, L0663: 3, H0660: 3, H0521: 3, L0749: 3, L0750: 3, L0757: 3, H0543: 3, H0170:</p>		

[illegible]

347	HP1AA80	829972	357	314 - 427	861		1, L0603: 1, L0592: 1, L0593: 1, L0362: 1, L0603: 1 and H0136: 1, AR089: 9, AR060: 6 L0750: 3, H0672: 2, L0744: 2, H0583: 1, H0587: 1, L0021: 1, S0010: 1, H0024: 1, H0266: 1, H0169: 1, S0364: 1, H0068: 1, H0038: 1, T0004: 1, H0625: 1, S0150: 1, L0769: 1, L0667: 1, L0649: 1, L0784: 1, L0526: 1, L0790: 1, L0792: 1, L0663: 1, H0696: 1, L0747: 1, L0608: 1 and S0276: 1,
348	HP1B151	829114	358	715 - 924	862	Arg-48 to Tyr-54,	AR060: 5, AR089: 3 L0439: 4, L0740: 3, L0777: 3, H0318: 2, H0056: 2, H0683: 2, L0747: 2, L0756: 2, L0779: 2, L0731: 2, L0759: 2, H0171: 1, S0045: 1, L0021: 1, H0036: 1, S0049: 1, L0041: 1, L0471: 1, H0271: 1, H0328: 1, H0428: 1, H0591: 1, H0040: 1, S0016: 1, H0560: 1, S0150: 1, S0142: 1, L0764: 1, L0662: 1, L0803: 1, L0805: 1, L0776: 1, L0809: 1, L0647: 1, L0788: 1, L0666: 1, L0665: 1, H0520: 1, H0684: 1, H0435: 1, H0672: 1, S0152: 1, H0521: 1, L0744: 1, L0754: 1, L0780: 1, L0755: 1, L0758: 1, H0445: 1, L0591: 1, L0608: 1, S0011: 1, S0194:

349	HPJBU51	878609	359	716 - 925	863	Arg-48 to Tyr-54.	1, H0543: 1 and H0422: 1. AR060: 5, AR089: 3 L0439: 4, L0740: 3, L0777: 3, H0318: 2, H0056: 2, H0683: 2, L0747: 2, L0756: 2, L0779: 2, L0731: 2, L0759: 2, H0171: 1, S0045: 1, L0021: 1, H0036: 1, S0049: 1, L0041: 1, L0471: 1, H0271: 1, H0328: 1, H0428: 1, H0591: 1, H0040: 1, S0016: 1, H0560: 1, S0150: 1, S0142: 1, L0764: 1, L0662: 1, L0803: 1, L0805: 1, L0776: 1, L0809: 1, L0647: 1, L0788: 1, L0666: 1, L0663: 1, H0520: 1, H0684: 1, H0435: 1, H0672: 1, S0152: 1, H0521: 1, L0744: 1, L0754: 1, L0780: 1, L0755: 1, L0758: 1, H0445: 1, L0591: 1, L0608: 1, S0011: 1, S0194: 1, H0543: 1 and H0422: 1.
350	HPJBU43	862058	360	242 - 295	864		AR060: 9, AR089: 5 S0152: 1 and L0589: 1.
351	HPJCW58	612866	361	177 - 263	865	Leu-16 to Gly-21.	AR060: 6, AR089: 4 S0152: 1
352	HPMBX22	702012	362	211 - 270	866		L0362: 17, L0766: 11, L0754: 10, L0747: 4, L0731: 4, S0003: 3, H0547: 3, S0026: 3, S0212: 2, H0251: 2, H0046: 2, H0031: 2, H0674: 2, L0769: 2, L0663: 2, L0665: 2, L0439: 2, H0445: 2, H0170: 1, H0686: 1, T0049: 1, S0134: 1, H0657: 1, S0001: 1, H0459:

353	HPMCJ84	562779	363	83 - 199	867			1, S0360: 1, S0410: 1, S0468: 1, H0431: 1, H0497: 1, H0486: 1, S0280: 1, H0196: 1, H0596: 1, H0565: 1, H0571: 1, H0566: 1, H0024: 1, H0275: 1, H0267: 1, H0615: 1, H0040: 1, H0634: 1, H0413: 1, S0440: 1, H0529: 1, L0640: 1, L0770: 1, L0642: 1, L0794: 1, L0649: 1, L0803: 1, L0804: 1, L0650: 1, L0774: 1, L0775: 1, L0805: 1, L0661: 1, L0783: 1, L0809: 1, L0666: 1, L0664: 1, L0438: 1, H0519: 1, H0684: 1, H0672: 1, S0406: 1, L0748: 1, L0740: 1, L0750: 1, L0779: 1, S0434: 1, L0589: 1, S0106: 1, H0667: 1 and S0424: 1, H0031: 1
354	HPMCV30	612870	364	52 - 195	868	Leu-39 to His-47.		L0526: 1, L0622: 8, H0670: 8, H0087: 7, S0360: 5, H0594: 5, H0188: 5, H0412: 5, S0206: 5, H0218: 4, S0418: 4, H0318: 4, H0024: 4, H0617: 4, L0770: 4, L0783: 4, S0328: 4, S0027: 4, H0263: 3, H0663: 3, T0048: 3, H0597: 3, H0123: 3, H0673: 3, S0366: 3, H0135: 3, H0616: 3, S0002: 3, L0775: 3, L0776: 3, L0518: 3, L0663: 3, H0144: 3, S0374: 3, S0126: 3, S0380: 3, S3014: 3, H0352: 3, H0624: 2, H0556:

					2, H0219; 2, S0114; 2, H0657; 2, H0341; 2, S0110; 2, H0661; 2, H0305; 2, H0351; 2, H0492; 2, T0039; 2, H0052; 2, H0546; 2, H0178; 2, H0083; 2, H0688; 2, H0068; 2, H0038; 2, H0040; 2, H0509; 2, S0142; 2, S0426; 2, L0769; 2, L0321; 2, L0768; 2, H0689; 2, L0750; 2, H0445; 2, H0170; 1, H0686; 1, H0344; 1, H0295; 1, H0294; 1, S0134; 1, S0218; 1, H0650; 1, L0760; 1, S0116; 1, S0001; 1, H0483; 1, H0255; 1, H0662; 1, H0402; 1, S0358; 1, S0376; 1, H0675; 1, H0380; 1, S0046; 1, S0132; 1, S0278; 1, H0549; 1, H0441; 1, H0370; 1, H0455; 1, H0333; 1, H0643; 1, L0623; 1, T0060; 1, H0250; 1, T0082; 1, S0010; 1, H0505; 1, H0421; 1, H0327; 1, H0545; 1, H0150; 1, H0086; 1, H0012; 1, H0099; 1, H0109; 1, H0290; 1, T0023; 1, H0031; 1, H0181; 1, H0606; 1, H0166; 1, H0674; 1, H0124; 1, H0163; 1, H0063; 1, H0551; 1, H0413; 1, H0102; 1, H0560; 1, S0372; 1, H0130; 1, S0144; 1, S0344; 1, S0422; 1, L0598; 1, L0507; 1, L0639; 1, L0648; 1, L0662; 1, L0767; 1, L0524;
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355	HPMIFH77	702014	365	251 - 358	869	Pro-29 to Cys-35.	1, L0805: 1, L0659: 1, L0542: 1, L0809: 1, L0530: 1, L0789: 1, H0691: 1, H0520: 1, H0519: 1, H0682: 1, H0684: 1, H0659: 1, H0658: 1, H0648: 1, H0672: 1, S0378: 1, S0152: 1, S0174: 1, H0576: 1, L0612: 1, H0540: 1, L0748: 1, L0740: 1, L0752: 1, L0758: 1, S0436: 1, L0485: 1, L0599: 1, L0608: 1, L0595: 1, L0362: 1, L0366: 1, S0106: 1, H0543: 1, S0446: 1, L0600: 1 and H0008: 1, AR089: 23, AR060: 6 L0750: 4, L0809: 3, L0747: 3, L0776: 2, L0740: 2, L0754: 2, S0045: 1, S0010: 1, H0581: 1, T0010: 1, H0687: 1, H0031: 1, L0770: 1, L0764: 1, L0375: 1, L0748: 1 and L0731: 1, AR089: 39, AR060: 19 S0136: 462 and H0413: 1, AR089: 39, AR060: 19 S0136: 462 and H0413: 1, AR060: 2 S0136: 15
356	HPQAX38	843592	366	295 - 345	870		AR089: 14, AR060: 12 L0803: 3, S0354: 2, S0280: 2, H0052: 2, H0617: 2, L0770: 2, L0646: 2, L0809: 2, S0028: 2, L0753: 2, H0445: 2, H0556: 1, S0024: 1, H0657: 1, S0418: 1, S0420: 1, H0351: 1, H0441: 1, H0586: 1, H0013: 1,
357	HPQAX38	845752	367	295 - 345	871		
358	HPQCB83	740761	368	85 - 189	872		
359	HPQCC53	570821	369	16 - 123	873		

360	HPRBH85	695752	370	684 - 1088	874	Glu-121 to Leu-126.	H0156: 1, L0021: 1, T0082: 1, H0122: 1, S0010: 1, H0571: 1, L0163: 1, H0284: 1, H0328: 1, H0135: 1, H0412: 1, H0100: 1, L0351: 1, H0538: 1, L0769: 1, L0639: 1, L0764: 1, L0662: 1, L0766: 1, L0649: 1, L0659: 1, L0530: 1, L0790: 1, H0520: 1, H0547: 1, H0519: 1, H0690: 1, S0328: 1, H0539: 1, S0136: 1, H0696: 1, L0748: 1, L0747: 1, L0756: 1, L0779: 1, L0777: 1, L0731: 1, L0757: 1, S0434: 1, S0436: 1, S0011: 1, H0136: 1 and S0196: 1.		
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361	HPRCA64	824074	371	1810 - 1929	875	H0713: 1, H0583: 1, S0360: 1, L0471: 1, H0510: 1, H0032: 1, H0488: 1, H0413: 1, L0662: 1, L0804: 1, L0775: 1, L0805: 1, L0655: 1, L0809: 1, L0519: 1, S0148: 1, H0547: 1, L0747: 1, L0686: 1 and H0665: 1, AR271: 6, AR272: 5, AR246: 4, AR096: 4, AR089: 4, AR060: 4, AR033: 3, AR104: 3, AR207: 3, AR245: 3, AR197: 3, AR201: 2, AR205: 2, AR053: 2, AR264: 2, AR243: 2, AR204: 1, S0222: 8, L0662: 8, L0005: 7, L0665: 7, L0659: 6, L0666: 6, H0547: 6, L0740: 6, L0439: 5, S06028: 4, L0483: 4, L0438: 4, L0754: 4, L0756: 4, L0779: 4, S0194: 4, S0049: 3, S0388: 3, L0646: 3, L0521: 3, L0663: 3, L0664: 3, H0435: 3, H0696: 3, L0777: 3, H0624: 2, H0171: 2, S0356: 2, S0442: 2, S0354: 2, S0360: 2, S0408: 2, H0052: 2, H0046: 2, H0563: 2, L0471: 2, S0051: 2, H0266: 2, H0040: 2, H0623: 2, S0440: 2, L0598: 2, L0520: 2, L0641: 2, L0771: 2, L0768: 2, L0774: 2, L0805: 2, L0776: 2, L0518: 2, L0565: 2, H0519: 2, H0670:
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362	HPRCD35	853551	372	265 - 372	876	Asp-16 to Glu-27.	2, H0660: 2, H0648: 2, H0672: 2, S0028: 2, L0751: 2, L0731: 2, L0758: 2, S0031: 2, L0396: 2, L0595: 2, S0026: 2, S0196: 2, H0170: 1, H0686: 1, H0685: 1, H0717: 1, H0381: 1, S0212: 1, H0662: 1, S0418: 1, S0376: 1, S0045: 1, S0046: 1, H0411: 1, H0369: 1, H0550: 1, H0438: 1, H0602: 1, T0040: 1, H0013: 1, H0427: 1, S0280: 1, H0590: 1, H0390: 1, S0474: 1, T0110: 1, H0545: 1, H0178: 1, H0562: 1, H0123: 1, H0373: 1, H0201: 1, H0355: 1, S0003: 1, H0615: 1, H0428: 1, T0006: 1, H0031: 1, H0553: 1, H0032: 1, S0036: 1, H0163: 1, H0551: 1, L0564: 1, L0370: 1, S0370: 1, S0450: 1, L0769: 1, L0637: 1, L5565: 1, L0372: 1, L0773: 1, L0650: 1, L0806: 1, L0527: 1, L0526: 1, L0783: 1, L0809: 1, S0374: 1, H0520: 1, H0682: 1, H0659: 1, S0328: 1, S0330: 1, H0539: 1, S0380: 1, L0602: 1, S0152: 1, H0555: 1, L0753: 1, L0755: 1, L0759: 1, S0260: 1, S0434: 1, S0436: 1, L0366: 1, H0667: 1 and S0242: 1.
							AR089: 1, AR060: 7 L0748: 5, L0754: 5, L0766:

363	HPTRM02	812879	373	885 - 1127	877	His-48 to Ser-61, Ala-66 to Val-72.	<p>4, L0803: 4, L0771: 4, L0662: 3, L0803: 3, L0756: 3, H0556: 2, S0212: 2, H0013: 2, H0050: 2, H0212: 2, H0551: 2, H0264: 2, L0800: 2, L0806: 2, L0664: 2, L0439: 2, L0758: 2, S0192: 2, H0265: 1, H0657: 1, H0125: 1, S0442: 1, S0358: 1, S0045: 1, S0046: 1, H0550: 1, H0392: 1, S0280: 1, H0575: 1, S0010: 1, H0545: 1, H0046: 1, H0178: 1, H0644: 1, H0617: 1, L0055: 1, H0032: 1, H0090: 1, H0038: 1, H0040: 1, H0560: 1, H0625: 1, S0438: 1, L0769: 1, L0796: 1, L5575: 1, L0768: 1, L0794: 1, L0649: 1, L0776: 1, L0659: 1, L0542: 1, L0526: 1, H0144: 1, L0565: 1, H0683: 1, H0659: 1, S0152: 1, H0521: 1, H0522: 1, H0436: 1, H0540: 1, S0118: 1, S0032: 1, L0731: 1, L0759: 1, L0604: 1, S0011: 1 and H0668: 1.</p>	
							<p>H0617: 7, H0087: 6, H0657: 5, S0410: 3, L0754: 3, S0356: 2, H0150: 2, H0687: 2, H0424: 2, H0551: 2, L0769: 2, L0774: 2, L0743: 2, L0758: 2, L0592: 2, H0556: 1, T0002: 1, H0686: 1, H0685: 1, T0049: 1, H0663: 1, S0442: 1, S0444: 1, S0360: 1, S0476:</p>	

364	HPWBA29	561956	374	194 - 235	878		1, L0717: 1, H0550: 1, H0486: 1, H0250: 1, L0021: 1, T0048: 1, S0474: 1, S0049: 1, H0052: 1, H0309: 1, H0597: 1, H0544: 1, H0014: 1, H0107: 1, S6028: 1, H0416: 1, H0622: 1, H0644: 1, H0102: 1, S0038: 1, L0351: 1, S0450: 1, S0344: 1, S0002: 1, L0764: 1, L0766: 1, L0805: 1, L0776: 1, L0655: 1, L0657: 1, L0666: 1, L0665: 1, S0126: 1, H0689: 1, H0435: 1, H0521: 1, H0696: 1, H0555: 1, L0744: 1, L0439: 1, L0749: 1, L0777: 1, L0755: 1, L0759: 1, S0436: 1, L0597: 1, L0599: 1, L0366: 1 and S0196: 1.
365	HPWDK06	839825	375	405 - 485	879		AR089: 11, AR060: 8 S0044: 1 L0743: 11, L0748: 10, L0731: 6, L0754: 5, H0427: 4, H0575: 3, H0428: 3, H0031: 3, L0517: 3, H0696: 3, S0044: 3, L0758: 3, H0716: 2, H0411: 2, H0597: 2, H0620: 2, H0024: 2, H0687: 2, H0135: 2, L0770: 2, L0662: 2, L0775: 2, L0518: 2, L0666: 2, H0144: 2, S0028: 2, L0744: 2, L0751: 2, L0750: 2, L0605: 2, H0713: 1, H0717: 1, S0116: 1, S0212: 1, H0669: 1, H0662: 1, S0418: 1, S0360: 1, S0045: 1, H0619:

366	HRAAD30	366187	376	220 - 297	880	1, L0717: 1, L0623: 1, S0280: 1, L0021: 1, H0599: 1, H0706: 1, S0010: 1, S0474: 1, H0309: 1, H0085: 1, H0231: 1, H0545: 1, H0050: 1, L0471: 1, H0057: 1, L0163: 1, S0051: 1, T0010: 1, S0312: 1, H0688: 1, H0169: 1, L0456: 1, H0551: 1, T0067: 1, H0379: 1, H0059: 1, T0069: 1, S0038: 1, H0652: 1, L0520: 1, L0371: 1, L0772: 1, L0771: 1, L0768: 1, L0378: 1, L0653: 1, L0776: 1, L0659: 1, L0542: 1, L0647: 1, L0664: 1, H0593: 1, S0126: 1, H0690: 1, H0684: 1, H0658: 1, H0670: 1, H0660: 1, H0539: 1, S0146: 1, S0027: 1, S0032: 1, L0439: 1, L0747: 1, L0777: 1, L0604: 1, H0506: 1, L0462: 1 and H0352: 1, AR060: 5, AR089: 2 L0731: 6, H0617: 4, L0758: 4, H0013: 3, H0547: 3, L0748: 3, L0747: 3, S0420: 2, S0358: 2, L0770: 2, S0126: 2, L0439: 2, L0751: 2, L0777: 2, L0757: 2, H0543: 2, S0040: 1, H0550: 1, H0497: 1, H0333: 1, H0618: 1, H0253: 1, S0474: 1, H0546: 1, H0571: 1, L0471: 1, H0024: 1, H0051: 1, H0286: 1, H0644: 1, L0435: 1, T0067: 1,	
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367	HRADA42	827302	377	122 - 256	881	<p>S0440: 1, H0130: 1, H0329: 1, L0763: 1, L0769: 1, L0772: 1, L0372: 1, L0662: 1, L0806: 1, L0659: 1, L4501: 1, L0666: 1, L0664: 1, H0144: 1, S0374: 1, H0522: 1, H0555: 1, S0027: 1, L0740: 1, L0750: 1, L0752: 1, L0759: 1, S0436: 1, L0592: 1, L0604: 1, H0542: 1 and S0398: 1.</p> <p>AR089: 21, AR060: 13 S0358: 13, L0771: 7, S0126: 5, L0754: 5, L0768: 4, L0766: 4, L0748: 4, L0779: 4, L0649: 3, L0775: 3, H0171: 2, S0418: 2, H0039: 2, L0763: 2, L0769: 2, L0764: 2, L0774: 2, L0747: 2, L0752: 2, L0588: 2, H0624: 1, H0657: 1, S0116: 1, H0341: 1, H0671: 1, L0005: 1, S0360: 1, S0408: 1, H0580: 1, S0045: 1, S0046: 1, H0393: 1, H0369: 1, H0370: 1, H0333: 1, H0069: 1, H0318: 1, H0530: 1, H0150: 1, T0003: 1, H0373: 1, H0266: 1, S0003: 1, H0622: 1, L0055: 1, H0038: 1, H0100: 1, H0202: 1, H0646: 1, S0142: 1, S0344: 1, S0210: 1, H0529: 1, L0770: 1, L0646: 1, L0767: 1, L0381: 1, L0378: 1, L0776: 1, L0655: 1, L0659: 1, L0809: 1, H0547: 1, H0711: 1, H0659:</p>
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368	HRADF49	866481	378	169 - 930	882	Pro-85 to Asp-99, Arg-163 to Arg-170, Gln-183 to Thr-189, Pro-201 to Ser-209, Ser-216 to Gly-222.	1, H0670: 1, H0648: 1, H0710: 1, S0152: 1, H0555: 1, S0027: 1, S0028: 1, L0740: 1, L0750: 1, L0777: 1, L0755: 1, L0731: 1, L0758: 1, L0759: 1, H0445: 1, L0596: 1, L0605: 1, L0590: 1, L0608: 1, S0011: 1, H0542: 1, H0543: 1 and S0456: 1. AR244: 12, AR205: 6, AR249: 5, AR206: 5, AR213: 3, AR186: 3, AR104: 3, AR060: 3, AR033: 3, AR251: 3, AR096: 2, AR061: 2, AR243: 2, AR089: 2, AR263: 1, AR309: 1, AR053: 1, AR055: 1, AR052: 1 L0751: 7, H0618: 6, L0754: 6, L0758: 6, L0748: 5, L0439: 4, H0580: 3, H0233: 3, L0770: 3, L0663: 3, H0556: 2, H0351: 2, H0052: 2, H0567: 2, H0625: 2, S0142: 2, L0659: 2, L0543: 2, H0576: 2, L0749: 2, H0423: 2, H0381: 1, S0212: 1, H0254: 1, H0663: 1, H0638: 1, S0418: 1, S6022: 1, H0549: 1, S0222: 1, H0370: 1, H0497: 1, L0622: 1, L0623: 1, H0101: 1, H0427: 1, H0194: 1, H0596: 1, H0081: 1, H0014: 1, H0355: 1, H0510: 1, H0553: H0424: 1, H0030: 1, H0553:
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369	HRADN25	800628	379	198 - 395	883	Gly-60 to Pro-65.	1, H0628: 1, S0364: 1, H0038: 1, H0551: 1, L0351: 1, H0633: 1, S0144: 1, L0371: 1, L0769: 1, L0639: 1, L0772: 1, L0648: 1, L0497: 1, L0375: 1, L0666: 1, H0144: 1, H0520: 1, H0682: 1, H0670: 1, H0672: 1, H0539: 1, S0044: 1, H0626: 1, S3012: 1, S3014: 1, S0027: 1, S0028: 1, L0779: 1, L0584: 1, L0608: 1, L0593: 1, H0667: 1 and H0542: 1.	
							AR089: 17, AR060: 12 H0556: 10, H0618: 6, H0253: 6, L0748: 6, L0758: 6, H0305: 5, L0742: 5, H0038: 4, L0439: 4, L0592: 3, H0013: 2, H0194: 2, H0545: 2, H0009: 2, H0014: 2, H0617: 2, H0087: 2, L0769: 2, L0774: 2, L0776: 2, L0665: 2, L0438: 2, H0690: 2, H0539: 2, S0380: 2, L0747: 2, L0779: 2, H0265: 1, H0657: 1, S0420: 1, S0376: 1, S0278: 1, H0455: 1, H0333: 1, H0632: 1, H0581: 1, S0049: 1, H0052: 1, H0123: 1, S0362: 1, H0687: 1, H0688: 1, H0606: 1, H0673: 1, H0135: 1, H0090: 1, H0591: 1, H0040: 1, H0616: 1, S0438: 1, S0142: 1, L0638: 1, L4747: 1, L0796: 1, L5565: 1, L0761: 1, L0643: 1.	

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370	HRADT25	800737	380	233 - 424	884	Gln-30 to Tyr-36, Thr-47 to Glu-56, Asn-58 to Thr-63.	AR060: 3, AR089: 2, H0555: 2 and S0356: 1.		
371	HRDA117	560720	381	578 - 673	885		H0031: 2, L0758: 2, H0013: 1, H0124: 1, L0369: 1, L0792: 1, S0216: 1, L0745: 1 and L0753: 1.		
372	HRDDQ39	840405	382	215 - 355	886	Gly-27 to Pro-35.	AR089: 18, AR060: 11, S0001: 2, H0436: 2, S0134: 1, H0657: 1, H0441: 1, H0009: 1, H0123: 1, H0050: 1, H0428: 1, H0124: 1, H0529: 1, H0521: 1 and H0352: 1.		
373	HRDER22	688056	383	32 - 61	887		AR060: 11, AR089: 10, AR055: 9, AR033: 8, AR243: 8, AR263: 8, AR104: 7, AR194: 7, AR061: 7, AR186: 7, AR246: 6, AR202: 6, AR204: 6, AR206: 6, AR251: 6, AR198: 5, AR273: 5, AR205: 5, AR039: 5, AR310: 5, AR052: 5, AR312: 4.		

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374	HRDEX93	816046	384	649 - 867	888	AR060: 14, AR089: 13 H0694: 12, L0748: 10, L0731: 7, L0754: 6, H0265: 5, H0556: 5, L0758: 5, S0420: 4, S0408: 4, L0517: 4, H0657: 3, H0618: 3, H0052: 3, H0083: 3, H0553: 3, H0124: 3, H0494: 3, L0763: 3, L0666: 3, L0663: 3, S0126: 3, L0747: 3, H0295: 2, S0134: 2, S0418: 2, H0637: 2, S0046: 2, H0431: 2, H0575: 2, H0545: 2, H0271: 2, H0039: 2, H0424: 2, H0641: 2, L0764: 2, L0766: 2, L0774: 2, L0775: 2, L0776: 2, L0655:	

375	HRDFK37	840381	385	120 - 152	889	<p>2, L0783: 2, L0665: 2, H0519: 2, H0522: 2, S0044: 2, L0755: 2, L0595: 2, L0362: 2, H0543: 2, S0040: 1, H0294: 1, H0656: 1, S0212: 1, H0484: 1, H0661: 1, H0662: 1, S0360: 1, H0619: 1, S0222: 1, H0486: 1, H0156: 1, H0706: 1, H0253: 1, S0010: 1, S0346: 1, H0318: 1, H0596: 1, H0231: 1, H0446: 1, H0150: 1, H0081: 1, H0050: 1, H0012: 1, H0620: 1, H0014: 1, L0163: 1, S0051: 1, T0010: 1, S6028: 1, H0266: 1, H0179: 1, H0292: 1, H0031: 1, H0644: 1, H0182: 1, H0617: 1, H0606: 1, H0673: 1, L0455: 1, L0456: 1, H0598: 1, H0038: 1, H0040: 1, H0616: 1, H0087: 1, T0067: 1, H0264: 1, T0041: 1, H0131: 1, H0647: 1, S0002: 1, L0772: 1, L0642: 1, L0662: 1, L0767: 1, L0657: 1, L0659: 1, L0382: 1, L0664: 1, H0144: 1, S0374: 1, H0593: 1, H0690: 1, H0682: 1, H0659: 1, H0638: 1, H0666: 1, H0651: 1, H0539: 1, H0521: 1, S0406: 1, H0576: 1, L0743: 1, L0740: 1, L0750: 1, L0779: 1, H0445: 1 and S0436: 1.</p>		
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376	HRGBD54	828436	386	1958 - 1990	890	H0413: 2, L0438: 2, L0747: 2, L0755: 2, H0170: 1, H0650: 1, H0657: 1, H0662: 1, H0402: 1, S0132: 1, L0717: 1, H0251: 1,

377	HROEA08	866190	387	50 - 151	891					H0011: 1, S0250: 1, L0483: 1, T0067: 1, L0065: 1, L0764: 1, L0794: 1, L0766: 1, L0639: 1, L0666: 1, H0144: 1, H0593: 1, H0134: 1, S3012: 1, S3014: 1, L0744: 1, L0748: 1, L0758: 1, S0434: 1, L0599: 1 and H0543: 1
										S0474: 17, H0521: 14, L0766: 12, L0809: 8, H0069: 7, H0591: 7, H0556: 6, H0486: 5, H0090: 5, L0655: 5, S0134: 4, H0650: 4, S0003: 4, H0268: 4, S0422: 4, L0770: 4, H0518: 4, L0777: 4, S0114: 3, H0656: 3, H0638: 3, H0271: 3, H0039: 3, H0641: 3, L0598: 3, L0763: 3, L0659: 3, H0436: 3, L0754: 3, L0756: 3, L0731: 3, H0423: 3, H0422: 3, H0265: 2, H0657: 2, S0354: 2, H0013: 2, L0105: 2, H0581: 2, H0622: 2, H0598: 2, H0100: 2, S0144: 2, H0529: 2, L0761: 2, L0648: 2, L5564: 2, L0803: 2, L0776: 2, L0789: 2, L0663: 2, H0696: 2, H0445: 2, H0542: 2, H0506: 2, H0624: 1, H0305: 1, H0125: 1, S0360: 1, H0549: 1, H0586: 1, T0060: 1, H0075: 1, H0002: 1, H0599: 1, H0004: 1, H0318: 1, H0421: 1, H0251: 1, H0457: 1, H0178: 1, L0471:

378	HSAVA08	580870	388	66 - 146	892	Thr-15 to Gln-22.	AR089: 17, AR060: 9 S0114: 2	1, T0003: 1, H0024: 1, S0388: 1, S0051: 1, S0024: 1, H0266: 1, H0687: 1, H0644: 1, H0040: 1, H0264: 1, T0069: 1, H0625: 1, S0440: 1, H0646: 1, S0344: 1, S0002: 1, S0426: 1, L0641: 1, L0662: 1, L0794: 1, L0650: 1, L0774: 1, L0375: 1, L0784: 1, L0805: 1, L0515: 1, H0144: 1, H0702: 1, S0374: 1, H0520: 1, S0126: 1, H0659: 1, H0658: 1, S0378: 1, H0522: 1, H0555: 1, S3014: 1, L0747: 1, L0779: 1, L0752: 1, L0753: 1, L0757: 1, S0260: 1, S0242: 1, H0543: 1 and S0412: 1.		
379	HSAYW42	637660	389	129 - 197	893		AR089: 13, AR060: 8 H0412: 2, S0114: 1, S0222: 1, H0169: 1, L0520: 1, L0805: 1, L0776: 1, L0750: 1 and L0777: 1.			
380	HSAWN53	634697	390	159 - 347	894	Gln-42 to Ser-63.	AR089: 9, AR060: 8 S0114: 1			
381	HSAWZ40	634000	391	124 - 237	895		AR060: 8, AR089: 7 S0114: 1			
382	HSAYC41	688057	392	106 - 213	896	Lys-23 to Lys-36.	S0114: 1, H0411: 1, H0179: 1, L0665: 1 and H0435: 1.			
383	HSDZM54	637870	393	445 - 552	897	Lys-17 to Leu-23.	AR060: 424, AR089: 210			
384	HSIBF76	715838	394	129 - 161	898		L0747: 7, H0599: 5, H0622: 4, L0764: 4, L0794: 4, L0659: 4, L0005: 3.			

						H0144: 3, L0749: 3, L0750: 3, S0046: 2, H0013: 2, H0046: 2, H0031: 2, L0770: 2, L0761: 2, L0649: 2, L0806: 2, L0809: 2, L0744: 2, L0754: 2, L0755: 2, L0588: 2, L0603: 2, H0171: 1, H0685: 1, S0212: 1, S0376: 1, S0132: 1, H0619: 1, H0645: 1, S0022: 1, H0574: 1, L0738: 1, L0157: 1, H0030: 1, H0135: 1, H0616: 1, H0494: 1, L0800: 1, L0771: 1, L0773: 1, L0662: 1, L0803: 1, L0783: 1, L0789: 1, L0665: 1, S0374: 1, H0539: 1, S012: 1, S0037: 1, S0027: 1, L0751: 1, L0756: 1, L0779: 1, L0731: 1, L0758: 1, H0653: 1 and H0352: 1.		
385	HSIFG47	778378	395	304 - 345	899	H0590: 1		
386	HSIBY32	702020	396	257 - 532	900	AR060: 2, AR089: 1, S022: 1, H0271: 1, L0796: 1, L0766: 1, S0032: 1 and L0747: 1.		
387	HSKDR27	580874	397	473 - 556	901	AR060: 7, AR089: 5, S0027: 95, S0192: 54, S3014: 53, S0126: 42, S0040: 35, H0424: 23, S0028: 22, S0037: 19, S3012: 16, H0213: 13, T0006: 12, H0250: 11, S0032: 11, L0744: 11, T0040: 10, H0124: 10, H0429: 10, L0740: 10, L0588: 10, L0754: 9, H0545: 8, H0280: 8, S0194:		

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388	HSLHG78	846148	398	647 - 859	902	Arg-13 to Ser-27, Ser-29 to Tyr-41, Thr-55 to Phe-62.	1, H0587: 1, L0021: 1, H0042: 1, T0048: 1, H0505: 1, H0052: 1, H0251: 1, H0235: 1, H0231: 1, H0544: 1, H0050: 1, H0051: 1, H0071: 1, H0083: 1, H0060: 1, H0266: 1, H0188: 1, H0292: 1, S0214: 1, H0328: 1, H0033: 1, H0417: 1, H0553: 1, H0628: 1, H0617: 1, H0606: 1, H0383: 1, H0212: 1, H0388: 1, H0135: 1, H0040: 1, H0487: 1, H0413: 1, T0069: 1, H0560: 1, H0538: 1, S0210: 1, L0763: 1, L0646: 1, L0641: 1, L0649: 1, L0803: 1, L0652: 1, L0629: 1, L0659: 1, L0787: 1, L0665: 1, H0435: 1, H0528: 1, H0521: 1, H0555: 1, L0779: 1, L0581: 1, S0276: 1 and H0008: 1. AR060: 4, AR089: 2 L0777: 9, L0759: 8, L0740: 6, L0756: 6, L0665: 5, L0771: 4, L0731: 4, L0637: 3, S0028: 3, L0744: 3, L0439: 3, L0471: 2, L0662: 2, L0809: 2, L0751: 2, L0779: 2, L0362: 2, H0624: 1, S6024: 1, S0220: 1, T0039: 1, H0156: 1, L0021: 1, H0644: 1, H0032: 1, H0316: 1, H0488: 1, L0598: 1, L0638: 1, L0641: 1, L0803: 1, L0774: 1, L0776: 1, L0807: 1, L0636: 1,
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389	HSLHX15	777861	399	485 - 610	903	Arg-28 to Arg-35.	AR060: 8, AR089: 4 T0040: 1, L0564: 1, S0028: 1 and L0480: 1.		
390	HSNAP85	784054	400	941 - 955	904		AR089: 16, AR060: 9 L0105: 11, L0803: 8, L0754: 8, L0777: 6, L0770: 4, L0805: 4, S0360: 2, L0157: 2, T0023: 2, H0413: 2, L0794: 2, L0766: 2, L0649: 2, L0774: 2, L0776: 2, L0666: 2, L0665: 2, H0696: 2, L0743: 2, L0744: 2, L0779: 2, L0752: 2, L0731: 2, L0759: 2, S0242: 2, H0624: 1, H0664: 1, S0418: 1, H0610: 1, H0013: 1, H0575: 1, H0318: 1, H0545: 1, H0569: 1, H0328: 1, H0163: 1, H0412: 1, S0370: 1, S0438: 1, S0422: 1, L0646: 1, L0521: 1, L0804: 1, L0775: 1, L0654: 1, L0655: 1, L0634: 1, L0809: 1, L0663: 1, S0374: 1, H0547: 1, H0672: 1, L0747: 1, L0750: 1, L0758: 1, L0599: 1, L0608: 1 and S0026: 1.		
391	HSNAZ09	527221	401	164 - 208	905	Ser-6 to Ser-14	H0163: 1 and L0748: 1.		
392	HSNBM34	635131	402	1508 - 1696	906	Ala-17 to Thr-26, Gly-49 to Cln-62.	AR060: 8, AR089: 4 H0590: 1 and H0163: 1.		
393	HISOAH16	827058	403	206 - 334	907	Pro-2 to Arg-7.	H0343: 1		

					Trp-32 to Leu-38			
394	HSQBF66	560726	404	229 - 429	908		AR089: 12, AR060: 8 S0026: 1	
395	HSQDO85	853393	405	133 - 168	909		AR089: 19, AR060: 15 H0556: 17, H0265: 13, L0740: 13, H0144: 12, L0747: 11, H0341: 9, H0494: 9, L0770: 9, H0551: 8, H0521: 8, L0757: 8, L0596: 8, H0599: 7, L0471: 7, L0665: 7, L0595: 7, L0717: 6, H0046: 6, H0090: 6, H0040: 6, S0002: 6, L0764: 6, L0775: 6, L0666: 6, H0436: 6, L0731: 6, H0542: 6, H0543: 6, H0657: 5, S0356: 3, S0358: 5, S0045: 5, H0050: 5, H0266: 5, H0135: 5, L0771: 5, L0662: 5, L0659: 5, H0670: 5, L0750: 5, H0624: 4, H0713: 4, S0114: 4, H0656: 4, H0618: 4, H0318: 4, H0581: 4, S0003: 4, H0644: 4, H0529: 4, L0763: 4, L0783: 4, L0663: 4, S0126: 4, H0435: 4, H0134: 4, L0748: 4, L0439: 4, L0362: 4, L0603: 4, H0422: 4, S0040: 3, S0212: 3, H0662: 3, S0046: 3, H0013: 3, H0575: 3, H0628: 3, H0038: 3, H0634: 3, H0623: 3, L0772: 3, L0646: 3, L0766: 3, L0806: 3, L0776: 3, L0664: 3, H0547: 3, S0328: 3, H0522: 3, S0037: 3, S3014: 3, S0028: 3, L0752:	

ORGANIZATIONAL DESIGN

3, L0755: 3, L0758: 3, H0445: 3, L0588: 3, L0594: 3, H0667: 3, H0141: 2, H0585: 2, H0717: 2, H0255: 2, S0442: 2, S0408: 2, S0132: 2, S0476: 2, H0431: 2, H0370: 2, H0387: 2, H0486: 2, T0040: 2, H0635: 2, S0474: 2, H0421: 2, H0085: 2, T0110: 2, H0597: 2, H0150: 2, H0012: 2, H0620: 2, H0014: 2, L0163: 2, S0024: 2, H0687: 2, H0292: 2, H0252: 2, H0622: 2, H0031: 2, H0673: 2, H0674: 2, H0124: 2, H0413: 2, H0100: 2, S0150: 2, S0210: 2, L0598: 2, L0769: 2, L0761: 2, L0642: 2, L0805: 2, L0655: 2, L0657: 2, S0374: 2, L0438: 2, H0519: 2, H0639: 2, H0658: 2, S0330: 2, S0378: 2, L0602: 2, S0027: 2, L0743: 2, L0754: 2, L0756: 2, L0591: 2, H0136: 2, H0216: 2, L0697: 2, S0424: 2, H0170: 1, T0002: 1, H0161: 1, H0220: 1, H0159: 1, S6024: 1, T0049: 1, S0134: 1, S0218: 1, S0116: 1, S0001: 1, H0458: 1, H0638: 1, S0418: 1, S0354: 1, S0444: 1, S0360: 1, H0580: 1, H0645: 1, H0393: 1, S0278: 1, H0432: 1, H0357: 1, H0600: 1, H0497: 1, H0362: 1, H0333: 1, H0574:
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						Asp-87 to Glu-94, Glu-100 to Ser-106, Arg-135 to Pro-143, Tyr-236 to Ser-244.	L0747: 4, L0769: 3, L0662: 3, L0766: 3, L0809: 3, L0748: 3, L0751: 3, H0618: 2, H0012: 2, L0770: 2, L0764: 2, S0406: 2, L0744: 2, H0352: 2, H0686: 1, S0040: 1, S0114: 1, H0657: 1, H0661: 1, S0442: 1, H0550: 1, H0587: 1, H0597: 1, H0123: 1, S0250: 1, H0166: 1, H0038: 1, S0440: 1, L0639: 1, L0643: 1, L0771: 1, L0521: 1, L0774: 1, L0379: 1, L0783: 1, S0374: 1, H0593: 1, S0380: 1, S0404: 1, L0743: 1, L0750: 1, L0756: 1, L0777: 1, L0753: 1, L0757: 1, L0758: 1, L0599: 1, S0026: 1 and H0008: 1.		
397	HSRBE06	871264	407	128 - 193	911		AR089: 14, AR060: 7 S0011: 3, H0306: 1, H0402: 1, L0004: 1, H0486: 1, H0050: 1, S0051: 1, H0494: 1 and S0002: 1, AR089: 7, AR060: 6 H0135: 1		
398	HSSDI26	560722	408	253 - 318	912		AR060: 10, AR089: 8 H0052: 17, L0745: 11, L0748: 10, L0777: 8, L0755: 8, L0766: 7, H0547: 7, L0439: 7, L0774: 6, L0771: 5, H0599: 4, L0662: 4, L0746: 4, L0163: 3, H0059: 3, H0100: 3, L0770: 3, L0775: 3, L0665: 3, S0126: 3, L0741: 3, L0751: 3, L0758: 3, L0759: 3, H0663:		
399	HSSEA64	853395	409	58 - 246	913				

06502-09121

2, S0046: 2, H0261: 2, H0333: 2, H0618: 2, H0194: 2, H0545: 2, H0012: 2, H0617: 2, H0135: 2, H0494: 2, L0763: 2, L0769: 2, L0768: 2, L0657: 2, L0438: 2, H0520: 2, H0658: 2, H0539: 2, S0152: 2, L0747: 2, L0752: 2, L0753: 2, L0588: 2, L0605: 2, S0040: 1, T0049: 1, H0657: 1, S0418: 1, S0420: 1, S0354: 1, S0358: 1, S0376: 1, S0360: 1, H0675: 1, H0645: 1, L0717: 1, H0437: 1, H0550: 1, S6016: 1, H0370: 1, H0497: 1, H0574: 1, H0575: 1, H0253: 1, S0049: 1, T0115: 1, H0630: 1, H0041: 1, H0620: 1, H0373: 1, H0375: 1, H0188: 1, H0286: 1, H0181: 1, H0124: 1, H0068: 1, H0040: 1, H0412: 1, T0042: 1, H0561: 1, S0448: 1, H0633: 1, S0144: 1, S0210: 1, S0002: 1, H0529: 1, L0638: 1, L0639: 1, L0627: 1, L0644: 1, L0773: 1, L0767: 1, L0387: 1, L0375: 1, L0651: 1, L0806: 1, L0776: 1, L0659: 1, L0540: 1, H0144: 1, H0519: 1, H0593: 1, S0380: 1, H0696: 1, H0694: 1, H0134: 1, H0555: 1, S0390: 1, S0028: 1, S0032: 1, L0749: 1, L0786: 1, L0731: 1, L0757: 1, L0592:
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400	HSSEF77	658725	410	184 - 366	914	Arg-22 to Lys-27, Leu-30 to Asn-39.	<p>1, S0026: 1, H0653: 1, H0667: 1, S0276: 1, H0542: 1 and S0424: 1.</p> <p>H0617: 7, L0750: 7, H0556: 5, L0769: 5, L0783: 5, L0758: 5, L0759: 5, L0665: 4, L0741: 4, S0132: 3, L0761: 3, L0742: 3, L0439: 3, L0755: 3, L0592: 3, H0618: 2, H0620: 2, H0038: 2, L0771: 2, L0662: 2, L0659: 2, L0666: 2, S0126: 2, H0670: 2, S0328: 2, S0380: 2, L0747: 2, L0753: 2, L0731: 2, H0395: 1, H0295: 1, H0294: 1, H0657: 1, H0656: 1, H0341: 1, H0484: 1, H0663: 1, H0638: 1, S0356: 1, S0444: 1, H0549: 1, H0550: 1, H0370: 1, H0455: 1, H0632: 1, H0486: 1, T0039: 1, T0112: 1, H0156: 1, H0581: 1, H0052: 1, H0545: 1, H0046: 1, H0150: 1, H0081: 1, S0051: 1, H0107: 1, H0061: 1, H0188: 1, H0288: 1, S0250: 1, H0428: 1, H0135: 1, H0163: 1, H0090: 1, H0616: 1, T0004: 1, S0438: 1, L0770: 1, L0796: 1, L0637: 1, L0772: 1, L0372: 1, L0646: 1, L0521: 1, L0768: 1, L0766: 1, L5574: 1, L0774: 1, L0775: 1, L0375: 1, L0806: 1, L0776: 1, L0657: 1, L0658: 1, L0540: 1, L0384: 1.</p>
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401	HSSPE38	742512	411	264 - 641	915	Glu-37 to Arg-42, Gly-108 to Cys-117.	L0809: 1, L0663: 1, L0438: 1, H0672: 1, S0188: 1, S0406: 1, H0436: 1, H0576: 1, S0144: 1, L0748: 1, L0779: 1, L0757: 1 and H0506: 1. AR089: 21, AR060: 18, L0766: 7, L0769: 6, S0418: 4, L0747: 4, S0424: 3, H0341: 2, S0278: 2, L0471: 2, H0083: 2, H0538: 2, L0770: 2, L0771: 2, L0775: 2, L0809: 2, H0520: 2, L0744: 2, L0754: 2, L0777: 2, L0759: 2, L0597: 2, S0026: 2, H0667: 2, H0171: 1, H0686: 1, S0212: 1, H0125: 1, S0420: 1, S0358: 1, S0376: 1, S0360: 1, S0046: 1, H0393: 1, H0333: 1, H0575: 1, H0581: 1, H0309: 1, H0046: 1, H0567: 1, H0188: 1, H0428: 1, H0553: 1, H0135: 1, H0040: 1, T0041: 1, L0369: 1, L0763: 1, L0643: 1, L0764: 1, L0773: 1, L0804: 1, L0375: 1, L0806: 1, L0776: 1, L0655: 1, L0783: 1, L0382: 1, L0666: 1, H0144: 1, H0593: 1, H0435: 1, H0659: 1, H0660: 1, H0666: 1, L0750: 1, L0755: 1, L0731: 1, L0757: 1 and H0543: 1.
402	HSSG58	747714	412	245 - 361	916	Thr-14 to Gln-34.	AR060: 2, AR089: 2, L0749: 2, H0135: 1, L0558: 1 and L0748: 1.

403	HSWBE76	751308	413	380 - 559	917	AR060: 7, AR089: 5 L077: 4, L0751: 3, L0747: 3, L0648: 2, L0779: 2, L0753: 2, S0342: 1, H0484: 1, H0661: 1, S0358: 1, L0009: 1, H0411: 1, S0014: 1, H0546: 1, H0123: 1, H0188: 1, S0366: 1, H0413: 1, S0344: 1, H0529: 1, L0769: 1, L0627: 1, L0774: 1, L0378: 1, L0776: 1, L0655: 1, L0663: 1, S0380: 1, H0478: 1, L0743: 1, L0750: 1 and S0196: 1.	
404	HSXCP38	895392	414	211 - 255	918	AR060: 4, AR089: 2 L0439: 4, H0050: 1, T0010: 1, S0036: 1, L0435: 1, L0438: 1 and L0759: 1.	
405	HSYB06	740766	415	232 - 333	919	AR089: 21, AR060: 12 S0358: 6, H0556: 5, H0024: 4, H0266: 3, H0159: 2, H0663: 2, T0039: 2, H0599: 2, S0010: 2, H0032: 2, H0059: 2, L0740: 2, L0581: 2, S0011: 2, H0543: 2, H0265: 1, H0222: 1, H0657: 1, H0255: 1, H0228: 1, S0418: 1, S0046: 1, H0645: 1, H0393: 1, H0431: 1, S0346: 1, T0048: 1, H0052: 1, H0251: 1, H0544: 1, H0123: 1, H0050: 1, H0271: 1, H0031: 1, H0644: 1, L0143: 1, L0455: 1, H0551: 1, H0623: 1, S0386: 1, H0100: 1, S0112: 1, S0015: 1, S0370: 1, S0144: 1, S0426: 1, L0369: 1.	

						L0627: 1, L0519: 1, L0663: 1, L0665: 1, H0691: 1, H0547: 1, H0593: 1, H0539: 1, S0152: 1, H0696: 1, S0270: 1, H0627: 1, S0028: 1, S0124: 1, L0744: 1, L0748: 1, L0751: 1, L0777: 1, L0588: 1, L0604: 1, H0136: 1, H0217: 1 and H0422: 1.			
406	HT1SC27	630647	416	366 - 449	920	AR060: 6, AR089: 6, H0218: 22, H0219: 7, H0157: 3, H0207: 2, H0169: 1, S0440: 1 and L0749: 1.			
407	HT3BF49	838620	417	306 - 320	921	H0271: 2, L0791: 2, L0439: 2, H0159: 1, H0561: 1, L0774: 1, S0052: 1 and L0779: 1.			
408	HT4FV41	853400	418	39 - 452	922	Ala-15 to Gln-22, Gly-36 to Gly-41, Arg-47 to Pro-63, Pro-85 to His-98. AR244: 10, AR204: 9, AR202: 9, AR194: 9, AR052: 9, AR271: 8, AR246: 8, AR198: 7, AR089: 7, AR310: 7, AR060: 7, AR309: 7, AR206: 7, AR055: 7, AR053: 7, AR205: 6, AR312: 6, AR186: 6, AR251: 6, AR033: 6, AR243: 6, AR213: 5, AR273: 5, AR061: 5, AR248: 5, AR253: 5, AR039: 4, AR104: 4, AR096: 4, AR249: 4, AR263: 3, AR265: 3, L0794: 9, L0769: 6, L0751: 6, L0761: 4, L0809: 4, H0521: 4, L0439: 4, H0585: 3, H0617: 3, H0494: 3.			

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L0659; 3, L0665: 3, L0777: 3, H0423: 3, H0265: 2, H0255: 2, S0420: 2, S0354: 2, S0376: 2, H0370: 2, H0069: 2, H0545: 2, H0083: 2, H0040: 2, L0764: 2, L0662: 2, L0803: 2, L0666: 2, L0663: 2, L0438: 2, H0547: 2, L0743: 2, L0757: 2, S0436: 2, H0667: 2, H0422: 2, S0440: 1, H0713: 1, H0295: 1, H0341: 1, H0254: 1, H0638: 1, S0418: 1, S0360: 1, H0580: 1, S0046: 1, S0476: 1, H0587: 1, H0497: 1, H0635: 1, H0575: 1, H0004: 1, H0618: 1, H0052: 1, H0194: 1, H0544: 1, H0041: 1, H0373: 1, T0010: 1, H0267: 1, H0179: 1, S0250: 1, H0622: 1, L0194: 1, H0181: 1, H0124: 1, H0135: 1, H0087: 1, H0551: 1, H0412: 1, H0413: 1, S0038: 1, H0633: 1, H0646: 1, S0144: 1, H0529: 1, L0369: 1, L0640: 1, L0763: 1, L0770: 1, L0772: 1, L0372: 1, L0646: 1, L0800: 1, L0643: 1, L0644: 1, L0768: 1, L0805: 1, L0655: 1, L0518: 1, L0783: 1, L0384: 1, L0789: 1, S0052: 1, H0519: 1, H0682: 1, S0152: 1, H0187: 1, S0390: 1, L0744: 1, L0780: 1, L0752: 1, L0758: 1, H0665: 1, H0543: 1 and

409	HTSEY79	794169	419	228 - 380	923	<p>Glut-1 to Ser-9 Ser-23 to Ser-35.</p>	<p>S0424: 1. AR089: 11, AR060: 10 H0584: 45, L0748: 12, L0766: 8, L0758: 7, H0445: 7, H0167: 6, H0024: 6, L0805: 6, L0779: 6, H0556: 5, L0809: 5, L0750: 5, L0777: 5, L0770: 4, L0743: 4, L0754: 4, L0747: 4, H0543: 4, H0265: 3, H0581: 3, H0090: 3, H0329: 3, L0763: 3, L0769: 3, L0803: 3, L0789: 3, L0749: 3, L0731: 3, H0333: 2, H0575: 2, L0471: 2, H0179: 2, L0483: 2, H0708: 2, H0494: 2, H0561: 2, L0504: 2, L0768: 2, L0649: 2, L0774: 2, L0375: 2, L0776: 2, L0655: 2, L0783: 2, L0790: 2, H0698: 2, H0547: 2, H0593: 2, H0539: 2, L0755: 2, L0589: 2, H0423: 2, H0624: 1, H0713: 1, H0716: 1, S0114: 1, S0134: 1, H0583: 1, H0650: 1, H0657: 1, H0341: 1, H0255: 1, H0306: 1, H0402: 1, L0481: 1, S0356: 1, S0360: 1, H0675: 1, H0580: 1, H0619: 1, H0645: 1, H0453: 1, H0574: 1, S0474: 1, H0309: 1, L0157: 1, H0014: 1, H0083: 1, L0052: 1, H0615: 1, H0622: 1, T0023: 1, H0553: 1, H0598: 1, H0038: 1, H0616: 1, H0551: 1, H0477: 1, H0264: 1, H0056:</p>
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410	HT5GR59	801930	420	135 - 230	924			1, T0041: 1, S0016: 1, H0560: 1, S0002: 1, L0637: 1, L0761: 1, L0667: 1, L0772: 1, L0646: 1, L0771: 1, L0794: 1, L0804: 1, L0806: 1, L0653: 1, L0527: 1, L0659: 1, L0792: 1, L4501: 1, L4508: 1, L0663: 1, H0702: 1, H0520: 1, H0689: 1, H0690: 1, H0659: 1, S0330: 1, S0380: 1, H0518: 1, H0521: 1, H0696: 1, S0406: 1, H0555: 1, S0260: 1, S0434: 1, S0394: 1, L0591: 1, S0106: 1, S0026: 1, S0276: 1, H0542: 1, S0424: 1 and H0506: 1.
411	HTAE178	637684	421	632 - 646	925			AR006: 7, AR089: 5 H0584: 36, H0585: 23, H0141: 11, H0167: 9, H0457: 7, H0521: 6, H0575: 3, L0731: 3, H0265: 2, H0556: 2, H0581: 2, L0761: 2, H0543: 2, H0140: 1, H0638: 1, S0358: 1, S0140: 1, H0619: 1, H0497: 1, H0559: 1, H0069: 1, H0635: 1, H0427: 1, S0280: 1, H052: 1, H0477: 1, L0667: 1, L0768: 1, L0775: 1, L0659: 1, L0791: 1, L0792: 1, S0053: 1, L0777: 1, L0758: 1, H0445: 1 and H0506: 1.
								AR249: 6, AR060: 5, AR248: 5, AR202: 4, AR273: 4, AR244: 4, AR053: 4, AR052: 3,

412	HTDAA78	566861	422	151 - 213	926	Ala-5 to Leu-18.	<p>AR253: 3, AR186: 3, AR213: 3, AR206: 3, AR055: 3, AR251: 3, AR312: 3, AR061: 2, AR089: 2, AR243: 2, AR309: 2, AR246: 2, AR096: 2, AR204: 2, AR310: 2, AR198: 2, AR033: 2, AR205: 1, H0069: 1 and L0766: 1.</p> <p>AR089: 7, AR060: 4, H0039: 4, H0556: 3, H0551: 3, H0521: 3, S0040: 1, H0294: 1, H0638: 1, S0007: 1, H0393: 1, H0437: 1, H0549: 1, H0485: 1, H0486: 1, T0040: 1, H0013: 1, H0250: 1, H0069: 1, H0156: 1, H0575: 1, H0036: 1, S0346: 1, H0581: 1, H0421: 1, H0009: 1, H0050: 1, L0471: 1, H0373: 1, T0010: 1, H0083: 1, H0266: 1, H0622: 1, H0553: 1, H0032: 1, H0591: 1, H0477: 1, H0488: 1, H0056: 1, H0702: 1, L0438: 1, H0547: 1, H0519: 1, S0126: 1, H0522: 1, S3014: 1, L0748: 1, L0750: 1, S0011: 1 and L0697: 1.</p>		
413	HTEAG62	812332	423	1017 - 1085	927		<p>AR310: 2, AR206: 2, AR273: 2, AR186: 1, L0766: 6, H0038: 5, L0758: 4, H0616: 3, L0752: 3, L0779: 2, S0376: 1, S0132: 1, H0250: 1, H0457: 1, L0564: 1, L0794: 1.</p>		

414	HTECB02	806305	424	196 - 366	928	Ser-3 to Arg-9, Ser-19 to Pro-28, Arg-34 to Ala-43.	L0803: 1, L0666: 1, L0777: 1, L0755: 1, H0595: 1, S0434: 1 and H0542: 1. AR089: 12, AR060: 9 S0338: 3, H0253: 3, T0010: 3, L0806: 3, L0747: 3, L0749: 3, H0265: 2, H0663: 2, H0036: 2, H0618: 2, L0764: 2, L0666: 2, H0521: 2, L0759: 2, L0591: 2, L0604: 2, H0556: 1, S0114: 1, L0443: 1, H0619: 1, S0222: 1, H0559: 1, T0039: 1, S0280: 1, L0021: 1, H0196: 1, H0052: 1, H0545: 1, H0009: 1, H0172: 1, H0123: 1, H0024: 1, H0014: 1, S0388: 1, H0239: 1, H0428: 1, H0181: 1, H0591: 1, H0038: 1, S0002: 1, L0796: 1, L0761: 1, L0646: 1, L0766: 1, L0381: 1, L0803: 1, L0774: 1, L0775: 1, L0807: 1, L0517: 1, L0783: 1, L0384: 1, L0809: 1, L0545: 1, L0788: 1, L0664: 1, L0447: 1, H0658: 1, S0027: 1, L0743: 1, L0744: 1, L0751: 1, L0754: 1, L0745: 1, L0746: 1, L0750: 1, L0752: 1, L0755: 1, L0758: 1, H0665: 1 and H0542: 1.
415	HTECC15	866488	425	211 - 282	929		H0616: 8, S0222: 5, S0049: 5, L0794: 4, S0126: 4, L0742: 3, L0439: 3, L0756: 3, S0212: 2, S0376: 2, H0013: 2, H0327: 2, H0399:

							2, H0494: 2, H0144: 2, L0438: 2, L0758: 2, L0599: 2, H0656: 1, S0001: 1, S0007: 1, S0300: 1, L0717: 1, H0392: 1, H0438: 1, H0244: 1, H0590: 1, S0010: 1, H0178: 1, L0157: 1, H0057: 1, S0050: 1, S0388: 1, S0051: 1, T0010: 1, S6028: 1, H0328: 1, H0615: 1, H0068: 1, H0135: 1, H0591: 1, H0038: 1, H0102: 1, H0359: 1, L0521: 1, L0649: 1, L0805: 1, L0657: 1, L0791: 1, H0520: 1, H0547: 1, L0779: 1, S0260: 1, L0685: 1 and L0594: 1.		
416	HTEDF18	635528	426	325 - 342	930		AR060: 5, AR089: 3 L0758: 6, L0794: 4, L0779: 4, H0038: 2 and L0790: 1, AR089: 20, AR060: 11 L0747: 13, L0740: 8, L0758: 8, L0439: 7, H0124: 6, L0766: 6, L0750: 5, L0752: 5, L0757: 5, L0731: 4, L0662: 3, L0774: 3, L0809: 3, H0547: 3, L0779: 3, L0777: 3, H0375: 2, L0646: 2, L0783: 2, L0792: 2, L0663: 2, H0144: 2, L0759: 2, H0341: 1, S0358: 1, S0360: 1, S0222: 1, H0441: 1, H0497: 1, H0333: 1, T0060: 1, H0013: 1, H0156: 1, S0010: 1, H0581: 1, H0196: 1, H0327: 1, S0051: 1, H0399: 1, S6028: 1, S0003: 1, H0428: 1.		
417	HTEDJ28	762845	427	287 - 424	931	Thr-34 to Leu-41.			

418	HTEDS12	838621	428	260 - 370	932	Ala-29 to Thr-36.	L0483: 1, H0553: 1, H0674: 1, H0038: 1, L0564: 1, S0382: 1, H0538: 1, L0763: 1, L0638: 1, L0765: 1, L0771: 1, L0649: 1, L0522: 1, L0775: 1, L0375: 1, L0806: 1, L0655: 1, L0661: 1, L0659: 1, L0438: 1, H0690: 1, H0648: 1, S0330: 1, H0521: 1, S0032: 1, L0756: 1, L0753: 1, L0755: 1, L0596: 1, L0590: 1, L0592: 1, L0608: 1, S0026: 1, H0423: 1, H0422: 1, S0462: 1 and S0460: 1.	
419	HTED26	762846	429	261 - 359	933	Asp-21 to Gln-28.	H0253: 4, L0779: 2, H0618: 1, H0050: 1, H0038: 1, L0151: 1, L0758: 1 and H0445: 1. AR060: 5, AR089: 2 H0038: 5, L0758: 3, L0770: 2, H0539: 2, L0731: 2, T0049: 1, S0358: 1, H0574: 1, H0012: 1, H0428: 1, H0135: 1, L0764: 1, L0522: 1, L0803: 1, L0650: 1, L0775: 1, L0806: 1, L0805: 1, L0776: 1, L0666: 1, L0664: 1, H0144: 1, H0648: 1, H0631: 1, L0779: 1 and L0759: 1.	
420	HTED26	753425	430	259 - 357	934	Asp-21 to Gln-28.	AR060: 5, AR089: 2 H0038: 5, L0758: 3, L0770: 2, H0539: 2, L0731: 2, T0049: 1, S0358: 1, H0574: 1, H0012: 1, H0428: 1, H0135: 1, L0764: 1, L0522: 1, L0803: 1, L0650: 1, L0775: 1, L0806: 1, L0805: 1, L0776: 1, L0666: 1, L0664: 1, H0144: 1, H0648: 1, H0631: 1, L0779: 1 and L0759: 1.	

421	HTEEF26	789606	431	262 - 285	935	<p>1, L0775: 1, L0806: 1, L0805: 1, L0776: 1, L0666: 1, L0664: 1, H0144: 1, H0648: 1, H0631: 1, L0779: 1 and L0759: 1.</p> <p>AR060: 6, AR089: 4 H0038: 5, L0794: 5, L0766: 4, L0803: 4, L0758: 4, H0574: 3, H0457: 3, L0770: 3, L0775: 3, L0666: 3, L0779: 3, L0777: 3, L0752: 3, L0731: 3, H0039: 2, H0040: 2, L0763: 2, L0776: 2, L0657: 2, H0144: 2, L0438: 2, H0539: 2, S0406: 2, L0756: 2, L0759: 2, H0665: 2, L0411: 1, H0624: 1, H0170: 1, S0040: 1, T0049: 1, S0001: 1, S0348: 1, S0354: 1, S0358: 1, S0360: 1, S0408: 1, H0580: 1, S0045: 1, S0222: 1, H0486: 1, T0039: 1, H0575: 1, H0590: 1, H0581: 1, H0596: 1, H0012: 1, H0687: 1, S0003: 1, H0328: 1, H0428: 1, H0644: 1, H0032: 1, L0455: 1, H0135: 1, H0090: 1, H0616: 1, H0551: 1, H0412: 1, T0042: 1, H0494: 1, L0637: 1, L0372: 1, L0641: 1, L0764: 1, L0771: 1, L0767: 1, L0522: 1, L0650: 1, L0806: 1, L0805: 1, L0607: 1, L0664: 1, S0374: 1, T0068: 1, H0547: 1, H0519: 1, H0638: 1, H0648: 1, H0672:</p>
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422	HTEEF26	879704	432	262 - 285	936	1, S0330: 1, H0521: 1, S0044: 1, H0631: 1, L0745: 1, S0434: 1 and S0196: 1, AR060: 6, AR089: 4 H0038: 5, L0794: 5, L0766: 4, L0803: 4, L0758: 4, H0574: 3, H0457: 3, L0770: 3, L0775: 3, L0666: 3, L0779: 3, L0777: 3, L0752: 3, L0731: 3, H0039: 2, H0040: 2, L0763: 2, L0776: 2, L0657: 2, H0144: 2, L0438: 2, H0539: 2, S0406: 2, L0756: 2, L0759: 2, H0665: 2, L0411: 1, H0624: 1, H0170: 1, S0040: 1, T0049: 1, S0001: 1, S0348: 1, S0354: 1, S0358: 1, S0360: 1, S0408: 1, H0580: 1, S0045: 1, S0222: 1, H0486: 1, T0039: 1, H0575: 1, H0590: 1, H0581: 1, H0596: 1, H0012: 1, H0687: 1, S0003: 1, H0328: 1, H0428: 1, H0644: 1, H0032: 1, L0455: 1, H0135: 1, H0090: 1, H0616: 1, H0551: 1, H0412: 1, T0042: 1, H0494: 1, L0637: 1, L0372: 1, L0641: 1, L0764: 1, L0771: 1, L0767: 1, L0522: 1, L0650: 1, L0806: 1, L0805: 1, L0607: 1, L0664: 1, S0374: 1, T0068: 1, H0547: 1, H0519: 1, H0658: 1, H0648: 1, H0672: 1, S0330: 1, H0521: 1, S0044: 1, H0631: 1, L0745:
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423	HTEW69	764835	433	182 - 1153	937	Asp-63 to Thr-70, Asn-77 to Ser-86, Thr-101 to Arg-108, Pro-117 to Asn-123, Gly-194 to Trp-203.	1, S0434: 1 and S0196: 1; AR089: 20, AR060: 15 H0038: 8, H0616: 4, L0779: 3, L0758: 3, L0753: 2, L0032: 1, T0006: 1, H0040: 1, L0768: 1 and H0547: 1.
424	HTEGS07	827700	434	493 - 606	938	Pro-18 to Asn-27.	AR060: 6, AR089: 5 L0604: 3, L0804: 2, L0747: 2, L0485: 2, L0623: 1, S0364: 1, S0366: 1, H0038: 1, L0794: 1, L0775: 1 and L0779: 1.
425	HTEGS11	862066	435	173 - 196	939		AR060: 8, AR089: 6 L0748: 9, L0598: 4, L0747: 4, L0471: 3, L0770: 3, H0144: 3, L0439: 3, L0750: 3, L0756: 3, H0575: 2, H0628: 2, L0794: 2, L0666: 2, H0660: 2, L0749: 2, L0777: 2, L0731: 2, L0581: 2, H0170: 1, H0713: 1, H0369: 1, S0222: 1, H0486: 1, H0013: 1, H0042: 1, H0196: 1, H0050: 1, H0428: 1, H0038: 1, L0769: 1, L0637: 1, L0761: 1, L0772: 1, L0766: 1, L0775: 1, L0367: 1, L0789: 1, L0793: 1, H0520: 1, H0547: 1, S3014: 1 and L0758: 1.
426	HTEHA56	806461	436	280 - 546	940	His-10 to Ala-20.	AR089: 31, AR060: 17 L0754: 8, H0553: 4, L0770: 4, L0794: 4, H0615: 3, L0769: 3, L0803: 3, L0439: 3, L0777: 3, L0752: 3, H0052: 2, L0637: 2, L0768: 2, L0805: 2, L0659:

427	HTEHU9	840385	437	170 - 274	941	Ser-29 to Phe-34.	<p>2, L0666: 2, L0664: 2, H0547: 2, H0593: 2, H0682: 2, H0539: 2, H0621: 2, L0744: 2, L0757: 2, L0604: 2, L0601: 2, H0624: 1, H0657: 1, H0656: 1, S0212: 1, H0254: 1, H0662: 1, L0005: 1, S0045: 1, H0619: 1, H0550: 1, H0592: 1, H0013: 1, H0036: 1, H0618: 1, H0620: 1, H0023: 1, S0051: 1, H0188: 1, H0028: 1, H0428: 1, T0006: 1, H0213: 1, L0455: 1, H0135: 1, H0038: 1, H0616: 1, H0264: 1, H0413: 1, T0069: 1, S0038: 1, H0100: 1, L0763: 1, L0638: 1, L5565: 1, L0761: 1, L0667: 1, L0804: 1, L0650: 1, L0375: 1, L0776: 1, L0807: 1, L0809: 1, L0519: 1, L0663: 1, L0665: 1, H0520: 1, S0126: 1, H0684: 1, H0435: 1, H0659: 1, H0648: 1, S0190: 1, S0404: 1, H0555: 1, L0741: 1, L0751: 1, L0747: 1, L0753: 1 and L0758: 1.</p>		
							<p>AR060: 3, AR089: 3 L0459: 7, L0758: 7, L0805: 5, H0620: 4, H0038: 4, L0748: 4, L0754: 4, L0747: 4, L0740: 3, L0756: 3, S0418: 2, S0360: 2, H0024: 2, H0286: 2, H0591: 2, L0698: 2, L0766: 2, L0649: 2, L0789: 2, L0750: 2.</p>		

428	HTEID29	695798	438	101 - 172	942		L0731: 2, H0170: 1, H0556: 1, S0040: 1, H0717: 1, S0134: 1, H0583: 1, H0656: 1, L0785: 1, H0341: 1, H0662: 1, S0420: 1, L0005: 1, S0046: 1, S0140: 1, H0437: 1, H0369: 1, H0549: 1, H0590: 1, H0581: 1, S0049: 1, H0194: 1, H0050: 1, S0050: 1, H0051: 1, H0267: 1, H0271: 1, H0428: 1, H0622: 1, T0006: 1, H0031: 1, H0032: 1, H0068: 1, S0036: 1, H0135: 1, H0412: 1, H0056: 1, L0435: 1, H0494: 1, S0208: 1, S0002: 1, S0426: 1, L0761: 1, L0772: 1, L0646: 1, L0771: 1, L0662: 1, L0794: 1, L0803: 1, L0806: 1, L0776: 1, L0655: 1, L0792: 1, L0665: 1, S0428: 1, H0144: 1, S0374: 1, H0547: 1, H0519: 1, H0670: 1, H0627: 1, S0027: 1, L0779: 1, S0031: 1, L0589: 1, S0026: 1, S0192: 1 and H0422: 1.
429	HTEKM46	862069	439	171 - 287	943		H0038: 2 L0439: 7, L0758: 7, L0805: 5, H0620: 4, H0038: 4, L0748: 4, L0754: 4, L0747: 4, L0740: 3, L0756: 3, S0418: 2, S0360: 2, H0024: 2, H0286: 2, H0591: 2, L0598: 2, L0766: 2, L0649: 2, L0789: 2, L0750: 2, L0731: 2, H0170: 1, H0556: 1

430	ITEMQ17	840387	440	446-484	944	<p>1, S0040: 1, H0717: 1, S0134: 1, H0583: 1, H0656: 1, L0785: 1, H0341: 1, H0662: 1, S0420: 1, L0005: 1, S0046: 1, S0140: 1, H0437: 1, H0369: 1, H0549: 1, H0590: 1, H0581: 1, S0049: 1, H0194: 1, H0050: 1, S0050: 1, H0051: 1, H0267: 1, H0271: 1, H0428: 1, H0622: 1, T0006: 1, H0031: 1, H0032: 1, H0068: 1, S0036: 1, H0135: 1, H0412: 1, H0056: 1, L0435: 1, H0494: 1, S0208: 1, S0002: 1, S0426: 1, L0761: 1, L0772: 1, L0646: 1, L0771: 1, L0662: 1, L0794: 1, L0803: 1, L0806: 1, L0776: 1, L0655: 1, L0792: 1, L0665: 1, S0428: 1, H0144: 1, S0374: 1, H0547: 1, H0519: 1, H0670: 1, H0627: 1, S0027: 1, L0779: 1, S0031: 1, L0589: 1, S0026: 1, S0192: 1 and H0422: 1.</p>		
						<p>AR060: 5, AR089: 2 L0748: 6, L0766: 4, H0038: 3, H0616: 3, H0056: 2, H0529: 2, H0519: 2, H0624: 1, H0662: 1, S0418: 1, S0360: 1, H0013: 1, H0581: 1, S0388: 1, H0266: 1, H0591: 1, H0087: 1, H0413: 1, H0561: 1, S0438: 1, L0520: 1, L0769: 1, L0794: 1, L0775: 1, L0666:</p>		

431	HTENR63	877952	441	132 - 302	945	Pro-22 to Lys-28.	<p>1, L0663: 1, H0547: 1, S0152: 1, L0740: 1, L0777: 1, L0753: 1, L0758: 1, L0608: 1 and H0542: 1, AR089: 19, AR060: 11 L0748: 9, L0777: 6, L0439: 5, L0749: 3, L0766: 4, L0438: 4, L0755: 4, L0752: 3, L0594: 3, S0212: 2, H0014: 2, H0598: 2, H0038: 2, H0100: 2, L0775: 2, S0330: 2, L0754: 2, L0750: 2, L0731: 2, L0758: 2, L0759: 2, L0485: 2, S0192: 2, S0040: 1, S0356: 1, S0046: 1, H0613: 1, H0024: 1, H0373: 1, H0375: 1, H0179: 1, H0032: 1, H0166: 1, H0673: 1, H0591: 1, H0616: 1, H0551: 1, H0412: 1, H0129: 1, H0529: 1, L0761: 1, L0771: 1, L0804: 1, L0784: 1, L0806: 1, L0655: 1, L0783: 1, L0666: 1, H0144: 1, S0126: 1, S0328: 1, H0539: 1, S0152: 1, L0740: 1, L0756: 1, L0779: 1, L0757: 1, H0445: 1, L0599: 1 and S0026: 1, AR246: 5, AR244: 5, AR253: 5, AR309: 4, AR186: 4, AR052: 3, AR206: 3, AR312: 3, AR310: 3, AR204: 3, AR060: 3, AR039: 3, AR055: 3, AR053: 3, AR061: 3, AR243: 3, AR205: 3, AR213: 2,</p>
432	HTGGM44	842856	442	179 - 433	946		

433	HTHBZ06	832477	443	318 - 323	947		AR089: 2, AR273: 2, AR263: 2, AR265: 2, AR251: 2, AR271: 2, AR033: 1, AR194: 1, AR096: 1 L0748: 8, L0805: 2, L0599: 2, S0218: 1, T0040: 1, H0635: 1, S0250: 1, H0063: 1, L0766: 1, S0126: 1 and H0518: 1.		
434	HTLAP64	603913	444	173 - 235	948	Tle-8 to AAm-20.	AR089: 52, AR060: 22 S0414: 8, L0065: 7, L0005: 6, S0360: 6, H0545: 4, H0648: 4, L0777: 4, L0758: 4, H0657: 3, L0666: 3, L0665: 3, L0779: 3, L0600: 3, S0474: 2, H0674: 2, H0494: 2, L0770: 2, L0769: 2, L0638: 2, L0637: 2, L0768: 2, L0805: 2, L0664: 2, L0438: 2, H0520: 2, L0745: 2, L0749: 2, L0756: 2, L0757: 2, H0484: 1, H0671: 1, S0358: 1, S0132: 1, L0623: 1, H0581: 1, S0214: 1, H0063: 1, H0413: 1, S0422: 1, S0002: 1, L0369: 1, L0796: 1, L0662: 1, L0766: 1, L0803: 1, L0774: 1, L0375: 1, L0656: 1, L0659: 1, L0647: 1, L0663: 1, H0684: 1, S0328: 1, S0350: 1, H0436: 1, L0743: 1, L0751: 1, L0754: 1, L0755: 1, L0731: 1, S0031: 1, L0485: 1, L0608: 1, L0362: 1 and H0352: 1.		
							AR089: 6, AR060: 5		

435	HTLBT80	840045	445	912 - 1301	949	Ser-107 to Ser-116.	L0756: 6, L0803: 5, L0754: 4, L0758: 3, S0003: 2, H0615: 2, S0422: 2, L0659: 2, L0665: 2, L0748: 2, L0731: 2, H0686: 1, L0002: 1, L0005: 1, H0574: 1, H0575: 1, H0253: 1, H0052: 1, H0569: 1, L0471: 1, H0266: 1, H0687: 1, H0622: 1, L0483: 1, H0628: 1, H0135: 1, H0591: 1, H0059: 1, L0637: 1, L0643: 1, L0364: 1, L0649: 1, L0375: 1, L0783: 1, L4501: 1, L0663: 1, H0144: 1, L0352: 1, H0519: 1, H0593: 1, S0126: 1, H0660: 1, H0666: 1, H0696: 1, S0028: 1, L0745: 1, L0750: 1, L0779: 1, S0436: 1, S0026: 1 and S0242: 1.
							AR251: 22, AR273: 18, AR053: 18, AR309: 16, AR310: 16, AR096: 15, AR263: 15, AR312: 14, AR265: 14, AR213: 12, AR052: 12, AR271: 10, AR055: 10, AR243: 9, AR249: 9, AR033: 9, AR233: 9, AR248: 8, AR061: 8, AR186: 7, AR198: 7, AR104: 6, AR089: 6, AR246: 6, AR244: 6, AR202: 5, AR204: 5, AR060: 5, AR206: 4, AR205: 4, AR039: 4, AR194: 1, L0659: 6, H0657: 4,

436	HTLDA84	686397	446	225 - 266	950	L0754: 1, L0749: 1, L0753: 1, L0731: 1, S0436: 1, H0653: 1, S0192: 1, H0542: 1, H0443: 1, H0423: 1 and S0424: 1.		
437	HTLDN29	790195	447	175 - 276	951	AR089: 2, AR060: 1 H0253: 1 AR060: 5, AR089: 5 L0766: 7, L0731: 4, H0529: 3, L0769: 3, L0806: 3, L0776: 3, L0750: 3, H0618: 2, L0800: 2, L0771: 2, L0774: 2, L0517: 2, L0665: 2, L0751: 2, L0758: 2, L0589: 2, S0424: 2, L0600: 2, H0341: 1, S0358: 1, L0717: 1, H0431: 1, H0497: 1, H0333: 1, H0331: 1, T0039: 1, H0013: 1, H0635: 1, H0156: 1, H0599: 1, H0004: 1, H0253: 1, H0052: 1, H0023: 1, T0010: 1, H0083: 1, H0629: 1, H0266: 1, H0271: 1, H0687: 1, H0688: 1, H0644: 1, H0038: 1, H0634: 1, H0058: 1, H0100: 1, H0494: 1, H0561: 1, L0770: 1, L0372: 1, L0646: 1, L0643: 1, L0794: 1, L0775: 1, L0657: 1, L0782: 1, L0792: 1, L0663: 1, H0547: 1, H0660: 1, H0539: 1, H0521: 1, H0134: 1, S0390: 1, L0439: 1, L0754: 1, L0747: 1, L0779: 1, L0755: 1, L0757: 1, H0445: 1, L0596: 1, L0592: 1, L0699: 1, L0693:		

438	HTLDU78	63702	448	219 - 245	952		1 and H0543: 1. L0758: 3, H0253: 1 and L0779: 1.		
439	HTLEC82	811992	449	530 - 640	953		AR089: 35, AR060: 21 L0766: 10, L0758: 9, H0253: 7, L0731: 7, H0618: 6, L0754: 6, L0756: 6, L0748: 5, L0662: 4, L0747: 4, H0024: 3, L0800: 3, H0521: 3, L0744: 3, S0418: 2, H0250: 2, H0318: 2, H0052: 2, H0188: 2, H0641: 2, L0763: 2, L0761: 2, L0809: 2, H0593: 2, H0689: 2, L0741: 2, L0439: 2, L0750: 2, L0759: 2, L0603: 2, S0218: 1, H0583: 1, H0650: 1, L0005: 1, S0442: 1, S0444: 1, H0580: 1, S0476: 1, H0619: 1, H0351: 1, H0550: 1, H0455: 1, H0331: 1, H0427: 1, S0280: 1, H0546: 1, H0545: 1, H0011: 1, T0010: 1, H0179: 1, H0271: 1, H0028: 1, H0688: 1, H0428: 1, T0023: 1, H0030: 1, H0181: 1, H0617: 1, H0606: 1, H0135: 1, H0038: 1, H0634: 1, T0042: 1, H0494: 1, H0560: 1, H0647: 1, S0002: 1, L4497: 1, L0770: 1, L0769: 1, L0639: 1, L0637: 1, L0764: 1, L0767: 1, L0768: 1, L0794: 1, L0650: 1, L0651: 1, L0378: 1, L0776: 1, L0528: 1, L0666: 1, S0374: 1, S0027: 1, L0755:		

440	HTLEM16	779133	450	1220 - 1429	954	Aug-29 to Cys-43.	1, L0757: 1, H0667: 1, H0543: 1 and H0352: 1, AR089: 48, AR060: 33 L0439: 31, L0741: 24, H0056: 13, L0748: 12, H0052: 9, H0521: 9, L0776: 8, L0744: 8, L0438: 7, L0754: 7, S0474: 6, L0766: 6, L0742: 6, L0731: 6, L0750: 5, S0278: 4, L5566: 4, L0665: 4, H0522: 4, H0556: 3, H0716: 3, H0657: 3, S0358: 3, H0580: 3, H0599: 3, S0049: 3, H0009: 3, H0553: 3, H0641: 3, S0142: 3, L0764: 3, L0659: 3, L0666: 3, S0126: 3, L0751: 3, H0717: 2, H0656: 2, S0029: 2, S0420: 2, S0360: 2, S0007: 2, H0497: 2, H0486: 2, H0618: 2, H0253: 2, H0581: 2, H0046: 2, S0388: 2, T0010: 2, H0039: 2, H0424: 2, L0456: 2, S0036: 2, H0135: 2, H0551: 2, H0623: 2, H0494: 2, S0002: 2, L0770: 2, L0796: 2, L5575: 2, L5565: 2, L0761: 2, L0662: 2, L0650: 2, L0383: 2, L0663: 2, H0682: 2, L0758: 2, S0434: 2, L0596: 2, L0581: 2, S0242: 2, S0114: 1, H0383: 1, L0422: 1, S0116: 1, H0662: 1, H0305: 1, S0418: 1, L0005: 1, S0444: 1, S0046: 1, S0476: 1, H0645: 1, H0437: 1, H0261:
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441	HTLEV48	723799	451	205 - 825	955	Met-I to Arg-12, Thr-19 to Leu-27, Asp-72 to Val-79, Arg-89 to Pro-94, Lys-102 to Ser-111, Glu-116 to Arg-122, Lys-134 to Pro-142, Ser-146 to Ser-151, Gly-177 to Asp-196.	1. H0216: 1, H0543: 1, H0422: 1 and H0008: 1, S0566: 4, L0623: 1 and H0253: 1.		
442	HTLEFA13	566786 535937	514 452	91 - 120 209 - 304	1018 956		AR089: 9, AR060: 7, AR310: 6, AR251: 4, AR312: 4, AR033: 4, AR052: 3, AR096: 3, AR186: 3, AR205: 2, AR053: 2, AR061: 2, AR039: 2, AR206: 2, AR309: 2, AR273: 2, AR194: 1 H0253: 2 and S0011: 1.		
443	HTLFT73	846063	453	340 - 411	957		AR060: 5, AR089: 3 S0007: 2, H0253: 2, H0305: 1, T0109: 1 and H0618: 1.		
444	HTLGI89	835069	454	1802 - 1915	958		AR089: 40, AR060: 31 L0758: 16, L0748: 10, H0620: 7, L0731: 6, H0246: 5, S0007: 4, H0253: 4, L0769: 4, L0754: 4, L0638: 3, L0766: 3, L0774: 3, S3014: 3, L0439: 3, H0265: 2, H0556: 2, T0002: 2, S6024: 2, H0656: 2, H0341: 2, S0212: 2, S0376: 2, H0619: 2, H0261: 2, S0222: 2, H0318: 2, H0196: 2.		

445	HTLJF11	843506	455	933 - 1049	959	Pro-4 to Gly-9.	L0597: 1, H0653: 1 and S0194: 1. H0253: 7, H0618: 4, H0620: 3, L0794: 3, L0769: 2, L0768: 2, L0439: 2, H0327: 1, H0051: 1, S0250: 1, S0036: 1, L0639: 1, L0761: 1, L0635: 1, L0791: 1, L0664: 1, L0438: 1, H0539: 1, L0741: 1, L0747: 1, L0750: 1, L0756: 1 and L0753: 1.
446	HTLJF12	834946	456	642 - 869	960	Phe-30 to Lys-37, Pro-43 to Lys-75.	AR089: 40, AR060: 25, H0616: 14, H0038: 12, H0618: 7, H0253: 5, L0758: 5, L0768: 4, H0411: 2, L0779: 2, L0151: 1, L0697: 1 and S0398: 1.
447	HTLJF12	842691	457	644 - 871	961	Phe-30 to Lys-37, Pro-43 to Lys-75.	AR089: 40, AR060: 25, H0616: 14, H0038: 12, H0618: 7, H0253: 5, L0758: 5, L0768: 4, H0411: 2, L0779: 2, L0151: 1, L0697: 1 and S0398: 1.
448	HTLJF12	870167	458	644 - 871	962	Phe-30 to Lys-37, Pro-43 to Lys-75.	AR089: 40, AR060: 25, H0616: 14, H0038: 12, H0618: 7, H0253: 5, L0758: 5, L0768: 4, H0411: 2, L0779: 2, L0151: 1, L0697: 1 and S0398: 1.
449	HTLJF12	886780	459	644 - 871	963	Phe-30 to Lys-37, Pro-43 to Lys-75.	AR089: 40, AR060: 25, H0616: 14, H0038: 12, H0618: 7, H0253: 5, L0758: 5, L0768: 4, H0411: 2, L0779: 2, L0151: 1, L0697: 1 and S0398: 1.
450	HTLJF12	891533	460	644 - 871	964	Phe-30 to Lys-37, Pro-43 to Lys-75.	AR089: 40, AR060: 25, H0616: 14, H0038: 12, H0618: 7, H0253: 5, L0758: 5, L0768: 4, H0411: 2, L0779: 2, L0151: 1, L0697: 1 and S0398: 1.

451	HTLIF12	901225	461	644 - 871	965	Phe-30 to Lys-37, Pro-43 to Lys-75.	H0618: 7, H0253: 5, L0758: 5, L0768: 4, H0411: 2, L0779: 2, L0151: 1, L0697: 1 and S0398: 1.		
452	HTNAM63	566880	462	193 - 285	966		AR089: 40, AR060: 25 H0616: 14, H0038: 12, H0618: 7, H0253: 5, L0758: 5, L0768: 4, H0411: 2, L0779: 2, L0151: 1, L0697: 1 and S0398: 1.		
453	HTNBK13	831967	463	534 - 599	967		L0439: 6, T0067: 1 and L0438: 1. L0779: 5, L0731: 4, L0593: 4, H0046: 3, L0776: 3, L0666: 3, H0031: 2, L0772: 2, L0774: 2, L0805: 2, H0670: 2, L0439: 2, L0754: 2, L0777: 2, L0758: 2, L0590: 2, T0002: 1, L0717: 1, H0632: 1, L0622: 1, T0082: 1, H0581: 1, H0263: 1, T0115: 1, H0597: 1, L0471: 1, H0012: 1, H0620: 1, H0163: 1, T0067: 1, L0770: 1, L0637: 1, L0388: 1, L0657: 1, L0382: 1, L0664: 1, S0126: 1, H0660: 1, S0378: 1, H0521: 1, L0747: 1, L0750: 1, L0756: 1, L0752: 1, L0755: 1, L0759: 1, S0031: 1, L0599: 1 and L0603: 1.		
454	HTOAL50	638623	464	61 - 144	968		AR089: 6, AR060: 4 H0264: 1 and L0766: 1.		
455	HTOAM11	664508	465	89 - 193	969		AR089: 12, AR060: 7 S0010: 1 and H0264: 1.		
456	HTODH57	823126	466	228 - 443	970	Tyr-21 to Phe-26, Glu-58 to Trp-66.	AR060: 5, AR089: 2 H0264: 1		

457	HTODH83	580884	467	103 - 201	971		AR060: 4, AR089: 1 H0264: 1		
458	HTOEVI6	853616	468	201 - 557	972	Arg-60 to Ala-69, Ala-93 to Cys-99.	AR060: 5, AR089: 3 H0506: 66, H0555: 28, S0354: 20, H0264: 18, H0087: 17, H0581: 16, S0116: 15, H0486: 13, H0040: 12, H0063: 12, S0358: 10, H0597: 8, H0039: 7, H0488: 6, L0751: 5, H0421: 4, L0744: 4, H0255: 3, S0356: 3, S0408: 3, H0156: 3, S0182: 3, S0432: 3, H0427: 2, H0108: 2, H0575: 2, T0023: 2, S0382: 2, H0538: 2, L0769: 2, L0662: 2, L0439: 2, L0592: 2, S0462: 2, H0624: 1, S0430: 1, S0212: 1, H0254: 1, S0376: 1, H0489: 1, H0393: 1, H0550: 1, H0331: 1, H0025: 1, H0042: 1, H0004: 1, H0618: 1, T0071: 1, H0596: 1, H0231: 1, H0545: 1, H0086: 1, S0388: 1, S0051: 1, H0355: 1, H0510: 1, H0031: 1, H0598: 1, H0090: 1, H0591: 1, H0561: 1, S0370: 1, S0464: 1, L0770: 1, L0372: 1, L0508: 1, S0374: 1, H0547: 1, H0689: 1, H0215: 1, S0392: 1, L0747: 1, L0731: 1, L0758: 1, H0445: 1, H0595: 1, S0456: 1, S0446: 1 and L0600: 1.		
459	HTOGR38	824639	469	314 - 442	973		AR089: 13, AR060: 11 L0777: 3, L0748: 2,		

460	HTOHO21	732808	470	439 - 630	974	Ile-35 to Cys-42.	H0264: 1, L0794: 1 and L0740: 1.		
461	HTOHQ05	853621	471	198 - 362	975		H0556: 3 and H0264: 1, AR252: 4, AR089: 3, AR201: 3, AR205: 2, AR272: 2, AR096: 2, H0264: 1.		
462	HTOJL95	806212	472	134 - 310	976	Gly-26 to Val-32.	AR089: 10, AR060: 7, H0264: 5, S0114: 3, S0134: 2, S0428: 2, H0381: 1, H0255: 1, H0402: 1, H0339: 1, H0486: 1, H0318: 1, H0581: 1, H0615: 1, H0090: 1, S0426: 1, L0369: 1, L0769: 1, L0779: 1, H0444: 1 and H0445: 1.		
463	HTOJL95	762851	473	221 - 397	977	Gly-26 to Val-32.	AR089: 10, AR060: 7, H0264: 5, S0114: 3, S0134: 2, S0428: 2, H0381: 1, H0255: 1, H0402: 1, H0339: 1, H0486: 1, H0318: 1, H0581: 1, H0615: 1, H0090: 1, S0426: 1, L0369: 1, L0769: 1, L0779: 1, H0444: 1 and H0445: 1.		
464	HTPDU17	840596	474	52 - 153	978		AR060: 2, AR089: 2, H0677: 19, L0759: 6, L0748: 5, H0040: 4, L0438: 3, L0754: 3, L0750: 3, L0777: 3, H0255: 2, H0617: 2, H0038: 2, H0529: 2, L0769: 2, L0761: 2, L0662: 2, L0666: 2, L0749: 2, L0758: 2, L0595: 2, H0265: 1, H0556: 1, S0134: 1, H0650: 1, H0657: 1, S0358: 1, S0045: 1, H0411: 1, H0392: 1, L0468: 1, H0587: 1.		

465	HTSF32	637720	475	93 - 149	979	Leu-12 to Cys-18.	1, H0069: 1, H0635: 1, H0575: 1, H0581: 1, H0564: 1, S6028: 1, H0266: 1, H0252: 1, H0615: 1, H0688: 1, H0039: 1, H0031: 1, H0634: 1, H0100: 1, H0494: 1, H0334: 1, H0561: 1, S0150: 1, L0667: 1, L0646: 1, L0800: 1, L0771: 1, L0661: 1, L0809: 1, L0790: 1, L0792: 1, L0663: 1, L0665: 1, S0374: 1, H0547: 1, H0519: 1, H0593: 1, H0672: 1, H0521: 1, H0555: 1, H0436: 1, L0439: 1, L0779: 1, L0731: 1 and L0757: 1.		
466	HTTCB60	853401	476	84 - 884	980	Ser-83 to Asp-88, Val-166 to Gly-181, Pro-193 to Ala-199, Glu-235 to Gln-250.	AR089: 3, AR060: 2 H0556: 1, S0114: 1, H0087: 1, H0538: 1, H0695: 1 and L0774: 1. L0794: 10, L0809: 9, L0750: 9, L0791: 7, L0747: 7, L0758: 6, L0759: 6, H0620: 5, L0749: 5, S0358: 4, H0135: 4, L0769: 4, L0800: 4, L0805: 4, L0659: 4, H0556: 3, L0471: 3, H0040: 3, L0804: 3, S0360: 2, H0393: 2, H0550: 2, H0592: 2, H0333: 2, S0049: 2, H0124: 2, S0438: 2, L0771: 2, L0662: 2, L0803: 2, L4501: 2, H0547: 2, L0779: 2, L0755: 2, L0731: 2, S0434: 2, L0603: 2, H0506: 2, H0713: 1, H0717: 1, H0294: 1, H0662: 1.		

467	HTTE541	840950	477	1171 - 1197	981	<p>S0045: 1, H0607: 1, H0586: 1, H0587: 1, T0040: 1, S0280: 1, H0590: 1, S0010: 1, H0581: 1, H0251: 1, H0041: 1, H0565: 1, H0570: 1, H0123: 1, H0081: 1, H0050: 1, H0188: 1, H0039: 1, H0622: 1, H0038: 1, H0063: 1, H0412: 1, H0413: 1, S0440: 1, S0210: 1, S0002: 1, L0763: 1, L0770: 1, L0761: 1, L0641: 1, L0768: 1, L0766: 1, L0375: 1, L0806: 1, L0776: 1, L0789: 1, L0790: 1, L0666: 1, L0663: 1, L0665: 1, H0520: 1, H0660: 1, H0672: 1, H0539: 1, S0380: 1, H0521: 1, H0696: 1, H0555: 1, L0744: 1, L0748: 1, L0780: 1, L0757: 1, H0445: 1, L0584: 1, L0589: 1, S0242: 1, S0194: 1, H0008: 1 and H0352: 1.</p> <p>AR089: 25, AR060: 17, H0052: 24, H0040: 17, L0758: 15, H0251: 14, L0769: 9, L0439: 9, L0770: 8, L0748: 8, L0731: 8, H0543: 8, H0423: 8, H0264: 7, H0494: 7, L0776: 7, L0659: 7, L0666: 7, H0144: 7, H0659: 7, H0436: 7, L0747: 7, L0749: 7, L0757: 7, L0592: 7, S0222: 6, H0038: 6, H0529: 6, L0662: 6, H0435: 6, H0013: 5, H0318: 5, H0581: 5, H0012:</p>		
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468	HITTEZ02	702027	478	250 - 336	982	Arg-23 to Leu-28.	AR089: 16, AR060: 11 L0777: 12, L0758: 9, L0439: 8, L0740: 7, L0779: 7, L0595: 7, H0038: 6, H0040: 6, L0748: 6, L0747: 6, L0659: 5, L0761: 4, L0776: 4, L0663: 4, L0565:		

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469	HTWEH94	561680	479	66 - 311	983		1, S0328: 1, L0786: 1, L0759: 1, S0031: 1, L0584: 1, L0608: 1, L0593: 1, L0601: 1, S0194: 1 and S0436: 1.		
470	HTXBD09	839429	480	350 - 388	984		AR089: 3, AR060: 2 H0436: 1 AR089: 6, AR060: 6 L0665: 11, L0439: 10, L0731: 7, L0777: 7, H0265: 6, L0662: 6, L0766: 6, L0769: 5, L0771: 5, L0758: 5, H0441: 4, L0774: 4, H0486: 3, H0052: 3, L0764: 3, L0659: 3, L0748: 3, L0740: 3, L0731: 3, L0757: 3, L0601: 3, H0556: 2, S0358: 2, S0007: 2, H0013: 2, H0545: 2, H0050: 2, H0012: 2, L0763: 2, L0770: 2, L0363: 2, L0776: 2, L0663: 2, L0438: 2, H0435: 2, H0555: 2, L0750: 2, L0756: 2, L0752: 2, H0686: 1, H0716: 1, S0114: 1, H0650: 1, H0656: 1, S0116: 1, H0341: 1, H0661: 1, H0662: 1, S0420: 1, S0356: 1, S0444: 1, H0675: 1, S0046: 1, H0619: 1, L0717: 1, H0549: 1, S0222: 1, H0587: 1, L0622: 1, T0039: 1, S0280: 1, H0505: 1, H0327: 1, H0046: 1, H0150: 1, H0620: 1, H0179: 1, S0250: 1, S0003: 1, H0428: 1, H0424: 1, H0553: 1, L0055: 1, H0038: 1, H0040:		

471	HTXDB22	853407	481	229-297	985			1, H0634: 1, H0264: 1, H0413: 1, H0056: 1, H0623: 1, S0370: 1, S0438: 1, H0509: 1, S0144: 1, S0002: 1, H0529: 1, L0520: 1, L0762: 1, L0638: 1, L0773: 1, L0521: 1, L0768: 1, L0775: 1, L0805: 1, L0654: 1, L0655: 1, L0661: 1, L0527: 1, L0657: 1, L0656: 1, L0518: 1, L0783: 1, L0809: 1, L0647: 1, L0666: 1, L0664: 1, S0053: 1, H0520: 1, H0690: 1, H0683: 1, S0330: 1, H0696: 1, L0745: 1, L0747: 1, L0749: 1, H0445: 1, L0596: 1, L0597: 1, L0591: 1, L0599: 1, L0604: 1, L0595: 1, L0603: 1, H0542: 1 and H0543: 1.	
								AR089: 9, AR060: 8 H0521: 28, H0271: 21, S0366: 12, L0777: 12, H0179: 11, L0493: 11, L0766: 10, H0423: 9, H0581: 8, H0457: 8, S0126: 8, L0752: 8, L0731: 7, H0584: 6, S0422: 6, H0547: 6, H0522: 6, L0748: 6, L0749: 6, H0543: 6, S0356: 5, H0052: 5, L0471: 5, H0266: 5, H0617: 5, H0529: 5, L0805: 5, L0776: 5, L0655: 5, H0520: 5, H0659: 5, L0439: 5, L0754: 5, L0779: 5, L0594: 5, H0265: 4, S0444: 4, S0408: 4,	

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473	HTXDC77	844258	483	65-520	987	<p>1 and H0422: 1; AR089: 168; AR060: 110 L0659: 33, L0665: 27, L0666: 19, L0664: 19, S0360: 17, S0344: 17, L0648: 17, S0358: 16, L0655: 14, L0596: 13, L0751: 12, L0662: 11, L0663: 10, L0740: 9, L0775: 8, L0599: 8, S0376: 7, H0046: 7, H0486: 6, H0597: 6, S0126: 6, L0439: 6, L0752: 6, S0116: 5, S0140: 5, H0581: 5, S0328: 5, L0748: 5, H0543: 5, H0423: 5, H0657: 4, S0212: 4, H0617: 4, H0087: 4, S0372: 4, L0374: 4, L0651: 4, H0555: 4, L0744: 4, L0754: 4, L0747: 4, T0049: 3, S0278: 3, H0031: 3, H0641: 3, S0144: 3, L0646: 3, L0375: 3, L0776: 3, L0606: 3, L0661: 3, L0657: 3, S0428: 3, H0518: 3, H0521: 3, S3014: 3, L0742: 3, L0743: 3, L0750: 3, L0753: 3, L0362: 3, L0601: 3, S0026: 3, H0265: 2, H0556: 2, T0002: 2, H0686: 2, S0114: 2, H0402: 2, S0410: 2, S0300: 2, T0060: 2, H0575: 2, H0274: 2, H0318: 2, H0085: 2, H0231: 2, H0083: 2, H0271: 2, H0188: 2, H0688: 2, H0553: 2, H0068: 2, H0509: 2, S0142: 2, S0002: 2, L0369: 2.</p>		
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474	HTXDD61	853408	484	49 - 447	988	Pro-70 to Ser-89, Ser-92 to Ser-115.	L0384: 1, L0382: 1, L0565: 1, H0691: 1, L0438: 1, H0689: 1, H0684: 1, H0670: 1, H0648: 1, H0672: 1, H0539: 1, S0404: 1, H0187: 1, H0436: 1, H0627: 1, H0631: 1, S0027: 1, L0749: 1, L0731: 1, L0757: 1, L0758: 1, H0595: 1, L0588: 1, L0605: 1, L0485: 1, S0242: 1, H0542: 1, S0456: 1, L0600: 1 and H0008: 1. AR060: 2, AR089: 2 L0748: 10, H0556: 5, L0809: 5, L0777: 5, L0769: 4, H0265: 3, H0052: 3, S0206: 3, S0358: 2, H0087: 2, L0764: 2, L0648: 2, L0805: 2, L0787: 2, L0439: 2, L0747: 2, H0445: 2, L0601: 2, H0542: 2, S0218: 1, L0426: 1, S0116: 1, H0484: 1, H0619: 1, H0393: 1, H0550: 1, H0370: 1, H0486: 1, H0618: 1, H0581: 1, H0178: 1, H0123: 1, H0050: 1, H0083: 1, H0510: 1, H0030: 1, H0553: 1, L0055: 1, H0616: 1, H0494: 1, L0763: 1, L0770: 1, L0638: 1, L0639: 1, L0643: 1, L0773: 1, L0655: 1, L0659: 1, L0666: 1, L0664: 1, H0593: 1, H0659: 1, H0539: 1, S0378: 1, H0696: 1, L0759: 1, L0361: 1 and H0423: 1.		
475	HTXDG92	658730	485	216 - 416	989	AR089: 26, AR060: 17			

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					L0777: 1; L0754: 8; H0618: 7, L0758: 7, L0438: 6, H0144: 5, L0747: 5, H0556: 4, H0059: 4, L0439: 4, L0601: 4, H0265: 3, S0410: 3, H0253: 3, H0052: 3, H0620: 3, H0617: 3, L0764: 3, L0768: 3, L0806: 3, L0744: 3, L0749: 3, L0731: 3, H0583: 2, H0341: 2, S0358: 2, S0046: 2, S0222: 2, H0013: 2, H0069: 2, S0049: 2, H0150: 2, H0087: 2, L0351: 2, T0041: 2, H0529: 2, L0771: 2, L0773: 2, L0662: 2, L0766: 2, L0803: 2, L0809: 2, L0793: 2, L0665: 2, H0547: 2, H0519: 2, H0659: 2, L0742: 2, L0748: 2, H0542: 2, S0040: 1, H0717: 1, H0716: 1, S0114: 1, T0049: 1, H0657: 1, H0656: 1, H0381: 1, H0663: 1, S0360: 1, H0722: 1, S0007: 1, S0132: 1, S0300: 1, S0278: 1, H0261: 1, H0550: 1, H0431: 1, H0392: 1, H0486: 1, T0114: 1, S0010: 1, H0581: 1, H0374: 1, H0327: 1, H0545: 1, H0457: 1, H0012: 1, H0024: 1, H0015: 1, H0510: 1, H0594: 1, H0188: 1, H0292: 1, H0286: 1, H0622: 1, H0553: 1, H0181: 1, H0135: 1, H0163: 1, H0040: 1, H0063: 1, H0413: 1, H0100: 1, H0561:
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476	HTXET11	581521	486	178 - 267	990			1, S0440: 1, H0509: 1, S0422: 1, L0640: 1, L0770: 1, L0769: 1, L0566: 1, L0363: 1, L0794: 1, L0804: 1, L0774: 1, L0775: 1, L0523: 1, L0805: 1, L0776: 1, L0559: 1, L0783: 1, L0383: 1, L0789: 1, L0792: 1, L0663: 1, H0698: 1, S0374: 1, H0520: 1, S0292: 1, S0126: 1, H0682: 1, H0683: 1, H0435: 1, S0380: 1, H0696: 1, H0436: 1, S0027: 1, L0740: 1, H0445: 1, L0684: 1, L0605: 1, L0592: 1 and H0543: 1.	
477	HTXFA72	853410	487	192 - 281	991			AR060: 5, AR089: 3, H0265: 1 AR089: 24, AR060: 12, H0265: 1	
478	HTXIY08	637774	488	108 - 158	992			AR060: 2, AR089: 1, H0556: 1, H0036: 1, H0590: 1, H0024: 1, H0100: 1, L0769: 1, L0667: 1, L0438: 1, L0740: 1 and L0771: 1.	
479	HTXKFP95	834438	489	330 - 566	993		Met-1 to Pro-6, Gly-73 to Thr-78.	AR309: 6, AR312: 5, AR053: 5, AR271: 4, AR060: 4, AR308: 4, AR246: 4, AR263: 4, AR213: 4, AR272: 3, AR212: 3, AR264: 3, AR243: 3, AR089: 3, AR096: 3, AR104: 2, AR061: 2, AR201: 2, AR204: 2, AR033: 2, AR055: 2, AR311: 2, AR352: 1	

480	HTXNZ07	834881	490	319 - 432	994	Pro-19 to Ser-28.	L0754: 41, L0747: 8, L0755: 5, L0659: 4, H0265: 2, H0556: 2, H0586: 2, L0471: 2, H0553: 2, L0764: 2, L0662: 2, L0794: 2, L0748: 2, L0751: 2, L0749: 2, L0750: 2, H0305: 1, S0358: 1, S0046: 1, H0441: 1, H0599: 1, H0569: 1, H0050: 1, H0051: 1, H0030: 1, H0124: 1, H0616: 1, L0770: 1, L0769: 1, L0800: 1, L0644: 1, L0363: 1, L0803: 1, L0804: 1, L0775: 1, L0806: 1, L0783: 1, L0666: 1, L0665: 1, H0144: 1, H0555: 1, S012: 1, L0779: 1, L0731: 1, L0605: 1, L0599: 1, L0603: 1, H0543: 1, H0422: 1 and H0506: 1.		
							AR060: 7, AR089: 4 L0439: 6, H0556: 2, S0007: 2, L0744: 2, L0740: 2, L0731: 2, S0442: 1, L0021: 1, H0618: 1, H0253: 1, H0041: 1, L0770: 1, L0800: 1, L0766: 1, L0803: 1, L0375: 1, L0807: 1, L0382: 1, L0791: 1, L0793: 1, L0352: 1, S0432: 1, L0741: 1 and L0779: 1.		
481	HUFCL31	801938	491	287 - 367	995		AR060: 26, AR089: 7 L0764: 5, L0771: 5, H0506: 4, L0374: 3, S0434: 3, S0356: 1, S0408: 1, H0264: 1, L0372: 1, L0783: 1, L0532: 1 and L0663: 1.		

482	HUKBT67	844446	492	273 - 392	996	Ser-32 to Arg-39.	<p>AR089: 14, AR060: 9 H0052: 13, S0360: 8, L0748: 8, H0619: 6, L0659: 6, L0665: 6, L0759: 6, L0789: 5, L0743: 5, L0752: 5, S0346: 4, H0059: 4, L0662: 4, L0805: 4, H0521: 4, L0717: 3, H0599: 3, H0644: 3, L0761: 3, L0776: 3, S0028: 3, L0744: 3, L0754: 3, L0749: 3, L0731: 3, L0757: 3, S0001: 2, S0354: 2, H0261: 2, H0586: 2, S0010: 2, H0620: 2, L0771: 2, L0804: 2, L0774: 2, L0806: 2, L0809: 2, L0664: 2, H0547: 2, H0539: 2, H0555: 2, L0747: 2, L0750: 2, L0758: 2, S0434: 2, L0596: 2, L0604: 2, H0171: 1, S0040: 1, H0713: 1, H0656: 1, S0212: 1, L0005: 1, S0356: 1, H0728: 1, H0735: 1, S0046: 1, S0278: 1, H0370: 1, H0392: 1, H0602: 1, H0592: 1, H0574: 1, H0013: 1, S0280: 1, H0575: 1, T0082: 1, H0581: 1, H0544: 1, H0046: 1, H0009: 1, H0081: 1, H0051: 1, H0266: 1, H0179: 1, H0290: 1, H0286: 1, S0250: 1, S0366: 1, S0036: 1, H0135: 1, H0591: 1, H0038: 1, H0551: 1, H0264: 1, H0488: 1, T0004: 1, H0100: 1, H0429: 1, H0334: 1, H0386: 1, S0144: 1,</p>
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483	HUKDF20	566823	493	214 - 315	997			AR060: 6, AR089: 3, H0266: 1 and H0059: 1.		
484	HUKDY82	570896	494	187 - 285	998			AR089: 14, AR060: 8, S0053: 4, H0673: 3, H0618: 2, H0179: 2, H0674: 2, S0216: 2, H0521: 2, S0031: 2, H0556: 1, S0116: 1, H0305: 1, H0619: 1, H0550: 1, H0069: 1, H0635: 1, H0318: 1, H0309: 1, H0083: 1, H0271: 1, H0090: 1, H0634: 1, H0059: 1, S0002: 1, S0032: 1, S0428: 1, H0144: 1, S0152: 1 and L0740: 1.		
485	HUSCJ14	894699	495	74 - 661	999			AR243: 5, AR194: 4, AR061: 3, AR251: 3, AR201: 2, AR205: 2, AR198: 2, AR039: 2, AR055: 2, AR250: 2, AR204: 2, AR060: 1, AR312: 1, AR311: 1, AR243: 1, AR186: 1, AR089: 1, AR263: 1, Phe-166 to Arg-174, Ser-191 to Tyr-196.		

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486	HUSGL67	792637	496	350 - 493	1000	Met-1 to Tyr-8, Gln-27 to Gln-38.	H0521: 1, S0406: 1, H0555: 1, L0740: 1, L0747: 1, L0749: 1, L0779: 1, L0731: 1, L0759: 1, S0031: 1, S0434: 1, S0436: 1, L0601: 1, S0106: 1, H0665: 1, H0667: 1 and S0276: 1, AR252: 82, AR250: 77, AR253: 70, AR254: 37, AR309: 22, AR264: 17, AR308: 16, AR312: 15, AR263: 15, AR096: 13, AR311: 11, AR271: 10, AR213: 8, AR243: 7, AR245: 7, AR053: 7, AR246: 6, AR272: 6, AR089: 6, AR212: 6, AR197: 5, AR198: 5, AR204: 4, AR033: 4, AR061: 4, AR060: 3, AR205: 3, AR039: 3, AR201: 3, AR104: 3, AR055: 2 L0766: 4, S0358: 3, H0266: 3, S0356: 2, S0045: 2, S0222: 2, H0616: 2, L0794: 2, L0655: 2, H0672: 2, L0777: 2, L0731: 2, H0422: 2, H0171: 1, H0657: 1, S0116: 1, H0341: 1, H0483: 1, H0449: 1, S0360: 1, H0587: 1, H0497: 1, H0486: 1, H0250: 1, S0010: 1, H0421: 1, H0327: 1, H0057: 1, H0014: 1, H0375: 1, S0028: 1, H0271: 1, S0003: 1, S0214: 1, H0328: 1, T0006: 1, H0644: 1, H0032:
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							1, H0090: 1, H0038: 1, H0087: 1, H0264: 1, H0268: 1, H0412: 1, S0422: 1, L0803: H0529: 1, L0521: 1, L0666: 1, H0710: 1, H0518: 1, H0521: 1, S0176: 1, S0406: 1, S3014: 1, L0439: 1, L0758: 1 and H0543: 1		
487	HUSGU40	654975	497	500 - 640	1001	Arg-21 to Ser-27, Ile-36 to Asp-41,	AR089: 34, AR060: 23		
488	HUSIR18	762858	498	83 - 151	1002		L0748: 4, H0622: 3, L0777: 3, H0624: 2, H0013: 2, H0520: 2, H0539: 2, L0439: 2, L0754: 2, L0747: 2, L0757: 2, L0758: 2, L0593: 2, L0002: 1, H0664: 1, H0580: 1, S0007: 1, H0497: 1, H0333: 1, H0599: 1, H0581: 1, L0483: 1, H0598: 1, H0040: 1, H0412: 1, L0351: 1, T0041: 1, L0769: 1, L0771: 1, L0662: 1, L0767: 1, L0768: 1, L0766: 1, L0381: 1, L0806: 1, L0656: 1, L0659: 1, L0809: 1, L0663: 1, L0665: 1, H0672: 1, S0152: 1, L0740: 1, L0749: 1, L0750: 1, L0779: 1, L0752: 1, L0480: 1, L0591: 1 and H0543: 1		
489	HUYDJ48	564853	499	196 - 213	1003		AR060: 5, AR089: 3, H0393: 1, H0056: 1 and L0662: 1		
490	HWAAI12	830432	500	223 - 312	1004		AR089: 4, AR060: 2, H0547: 12, L0794: 10, H0251: 9, L0439: 8, L0731: 1		

[illegible]

8, L0747: 7, L0438: 6, H0351: 5, L0750: 5, S0356: 4, L0768: 4, L0766: 4, L0805: 4, L0809: 4, L0771: 4, L0758: 4, L0596: 4, S0410: 3, H0013: 3, H0009: 3, H0594: 3, T0006: 3, H0124: 3, T0041: 3, H0529: 3, L0769: 3, L0666: 3, H0144: 3, H0520: 3, L0749: 3, H0661: 2, H0305: 2, S0360: 2, L0103: 2, H0581: 2, S0049: 2, H0052: 2, L0157: 2, L0471: 2, H0031: 2, H0087: 2, H0100: 2, S0344: 2, L0763: 2, L0761: 2, L0662: 2, L0803: 2, L0806: 2, L0664: 2, H0436: 2, S0028: 2, L0742: 2, L0756: 2, L0752: 2, L0605: 2, L0595: 2, H0543: 2, H0556: 1, T0002: 1, S0040: 1, H0717: 1, H0716: 1, H0294: 1, S0134: 1, H0341: 1, H0402: 1, S0354: 1, L0717: 1, S0278: 1, L0394: 1, H0549: 1, S0222: 1, H0333: 1, L0622: 1, H0486: 1, H0250: 1, H0635: 1, H0575: 1, S0010: 1, H0421: 1, H0085: 1, H0597: 1, H0545: 1, H0566: 1, H0620: 1, H0271: 1, H0687: 1, H0615: 1, H0622: 1, H0673: 1, H0674: 1, H0412: 1, H0413: 1, H0056: 1, T0042: 1, H0130: 1, H0646: 1, S0144: 1, S0208: 1, L0770:
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							1, L0796: 1, L0667: 1, L0772: 1, L0373: 1, L0372: 1, L0800: 1, L0645: 1, L0764: 1, L0648: 1, L0767: 1, L0650: 1, L0657: 1, L0517: 1, L0789: 1, L0790: 1, L0665: 1, H0690: 1, H0658: 1, H0670: 1, H0672: 1, S0378: 1, S0380: 1, H0521: 1, S012: 1, S0390: 1, S0027: 1, L0743: 1, L0779: 1, L0755: 1, L0759: 1, S0031: 1, S0436: 1, L0601: 1, S0276: 1, H0542: 1 and S0424: 1.		
491	HWBBQ70	689121	501	222 - 353	1005	Ala-21 to Ser-31.	AR060: 2, AR089: 1, L0717: 2, H0580: 1, S0222: 1, L0662: 1, H0436: 1, L0748: 1, H0445: 1 and S0308: 1.		
492	HWBCN36	722259	502	378 - 650	1006	Lys-45 to Pro-51, Arg-80 to Arg-85.	AR060: 1, AR089: 1, H0580: 1.		
493	HWBDJ08	762860	503	253 - 405	1007	Ser-30 to Gly-36.	AR089: 11, AR060: 5, H0635: 7, L0794: 6, H0556: 4, S0414: 4, H0521: 4, H0634: 3, L0779: 3, H0265: 2, S0134: 2, S0360: 2, H0619: 2, H0069: 2, H0575: 2, H0688: 2, H0056: 2, S0002: 2, L0665: 2, S0216: 2, H0519: 2, L0751: 2, L0758: 2, L0593: 2, H0422: 2, S0114: 1, S0116: 1, H0300: 1, S0356: 1, H0580: 1, S0045: 1, S0046: 1, H0643: 1, H0250: 1, H0581: 1, S0049: 1, L0045: 1, H0622: 1, H0031: 1.		

							H0644: 1, H0551: 1, H0264: 1, H0623: 1, H0641: 1, H0646: 1, L0763: 1, L0536: 1, L0766: 1, L0653: 1, L0655: 1, H0134: 1, L0777: 1, L0755: 1, H0542: 1, H0543: 1 and H0423: 1.		
494	HWBFX16	827312	504	267 - 278	1008		AR060: 184, AR089: 165 S0114: 1 and H0580: 1.		
495	HWDAC26	821335	505	242 - 349	1009		AR089: 61, AR060: 49, AR198: 5, AR194: 4, AR096: 3, AR310: 3, AR265: 3, AR213: 2, AR312: 2, AR249: 2, AR186: 2, AR053: 2, AR052: 2, AR104: 2, AR205: 1, AR039: 1, H0580: 1, S0300: 1, H0600: 1, L0783: 1, L0438: 1, L0439: 1 and L0758: 1.		
496	HWDA96	796743	506	866 - 964	1010		AR060: 28, AR089: 14, H0556: 19, H0265: 15, S0418: 10, S0358: 9, S0440: 9, L0755: 9, S0420: 8, L0752: 7, H0253: 6, L0751: 6, L0747: 6, L0750: 6, L0596: 6, S0212: 5, H0618: 5, H0545: 5, H0012: 5, H0617: 5, H0413: 5, L0740: 5, L0601: 5, H0295: 4, S0360: 4, H0039: 4, H0494: 4, H0641: 4, L0764: 4, L0776: 4, S0406: 4, L0758: 4, H0445: 4, H0657: 3, H0483: 3, S0356: 3, S0376: 3, S0408: 3, S0346: 3, H0040: 3, S0344: 3, L0637: 3, H0547: 3, H0658: 3.		

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	H0660: 3, S0328: 3, H0522: 3, L0743: 3, L0749: 3, L0756: 3, L0731: 3, L0757: 3, S0040: 2, H0713: 2, H0294: 2, H0341: 2, H0484: 2, H0661: 2, H0305: 2, H0125: 2, H0580: 2, H0586: 2, H0387: 2, H0052: 2, H0046: 2, H0009: 2, H0081: 2, H0620: 2, H0266: 2, H0124: 2, H0135: 2, H0551: 2, H0100: 2, L0646: 2, L0768: 2, L0774: 2, L0806: 2, H0435: 2, H0539: 2, L0748: 2, L0754: 2, L0588: 2, L0589: 2, L0608: 2, L0593: 2, H0543: 2, S0384: 2, H0170: 1, H0140: 1, H0716: 1, H0650: 1, H0656: 1, H0254: 1, H0300: 1, H0638: 1, S0410: 1, H0637: 1, S0045: 1, S0046: 1, S0476: 1, H0619: 1, S0278: 1, S0222: 1, H0600: 1, H0497: 1, H0632: 1, H0559: 1, H0013: 1, H0069: 1, H0042: 1, H0706: 1, S0010: 1, S0182: 1, H0318: 1, H0263: 1, T0110: 1, L0471: 1, H0024: 1, H0416: 1, H0290: 1, H0292: 1, H0286: 1, S0250: 1, H0622: 1, L0194: 1, L0483: 1, T0006: 1, H0213: 1, H0644: 1, L0142: 1, H0181: 1, H0606: 1, L0055: 1, H0090: 1, H0038: 1, H0616: 1, T0067: 1, H0488: 1, H0412: 1,
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499	HYABC84	789854	509	1015 - 1203	1013	Pro-3 to Ala-8.	1, H0521: 1, S0037: 1, S0424: 1, H0506: 1 and H0008: 1. AR089: 10, AR060: 6 L0665: 10, L0754: 6, L0438: 5, L0751: 5, L0777: 5, L0752: 5, L0755: 4, L0758: 4, S0046: 3, H0213: 3, L0769: 3, L0667: 3, L0771: 3, L0662: 3, L0659: 3, H0539: 3, L0747: 3, L0757: 3, S0276: 3, S0418: 2, H0208: 2, S0045: 2, H0428: 2, H0424: 2, H0553: 2, H0412: 2, L0638: 2, L0764: 2, L0768: 2, L0649: 2, L0666: 2, L0663: 2, H0547: 2, H0521: 2, S0404: 2, L0743: 2, L0744: 2, L0439: 2, L0756: 2, L0759: 2, L0485: 2, L0599: 2, S0040: 1, S0342: 1, T0049: 1, H0583: 1, H0657: 1, S0212: 1, H0580: 1, S0132: 1, H0261: 1, H0550: 1, H0370: 1, H0586: 1, H0333: 1, H0013: 1, H0250: 1, S0280: 1, H0575: 1, H0618: 1, S0049: 1, H0052: 1, H0009: 1, L0471: 1, H0620: 1, L0163: 1, S0388: 1, S0051: 1, T0010: 1, H0408: 1, H0239: 1, H0266: 1, H0179: 1, H0271: 1, H0124: 1, S0366: 1, H0135: 1, H0059: 1, T0042: 1, H0509: 1, H0641: 1, S0210: 1, H0529: 1, L0639: 1, L0637:	
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500	HYABC84	865064	510	1080-1268	1014	Pro-3 to Ala-8.	1, L0761: 1, L0646: 1, L0643: 1, L0773: 1, L0650: 1, L0657: 1, L0635: 1, L0383: 1, L0790: 1, L0792: 1, L0664: 1, S0052: 1, H0691: 1, H0593: 1, H0435: 1, H0672: 1, H0696: 1, H0576: 1, L0748: 1, L0745: 1, L0750: 1, L0731: 1, H0707: 1, L0596: 1, L0591: 1, L0592: 1, L0593: 1, L0595: 1, H0667: 1, H0422: 1 and L0600: 1.		
							AR089: 10, AR060: 6 L0665: 10, L0754: 6, L0438: 5, L0751: 5, L0777: 5, L0752: 5, L0755: 4, L0758: 4, S0046: 3, H0213: 3, L0769: 3, L0667: 3, L0771: 3, L0662: 3, L0659: 3, H0539: 3, L0747: 3, L0757: 3, S0276: 3, S0418: 2, H0208: 2, S0045: 2, H0428: 2, H0424: 2, H0553: 2, H0412: 2, L0638: 2, L0764: 2, L0768: 2, L0649: 2, L0666: 2, L0663: 2, H0547: 2, H0521: 2, S0404: 2, L0743: 2, L0744: 2, L0439: 2, L0756: 2, L0759: 2, L0485: 2, L0599: 2, S0040: 1, S0342: 1, T0049: 1, H0583: 1, H0657: 1, S0212: 1, H0580: 1, S0132: 1, H0261: 1, H0550: 1, H0370: 1, H0586: 1, H0333: 1, H0013: 1, H0250: 1, S0280: 1, H0575: 1, H0618:		

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	I, S0049; I, H0052; I, H0009; I, L047I; I, H0620; I, L0163; I, S0388; I, S0051; I, T0010; I, H0408; I, H0239; I, H0266; I, H0179; I, H0271; I, H0124; I, S0366; I, H0135; I, H0059; I, T0042; I, H0509; I, H0641; I, S0210; I, H0529; I, L0639; I, L0637; I, L0761; I, L0646; I, L0643; I, L0773; I, L0650; I, L0657; I, L0635; I, L0383; I, L0790; I, L0792; I, L0664; I, S0052; I, H0691; I, H0593; I, H0435; I, H0672; I, H0696; I, H0576; I, L0748; I, L0745; I, L0750; I, L0731; I, H0707; I, L0596; I, L0591; I, L0592; I, L0593; I, L0595; I, H0667; I, H0422; I and L0600; I.
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[81] The first column in Table 1B provides the gene number in the application corresponding to the clone identifier. The second column in Table 1B provides a unique "Clone ID NO:Z" for a cDNA clone related to each contig sequence disclosed in Table 1B. This clone ID references the cDNA clone which contains at least the 5' most sequence of the assembled contig and at least a portion of SEQ ID NO:X was determined by directly sequencing the referenced clone. The reference clone may have more sequence than described in the sequence listing or the clone may have less. In the vast majority of cases, however, the clone is believed to encode a full-length polypeptide. In the case where a clone is not full-length, a full-length cDNA can be obtained by methods described elsewhere herein.

[82] The third column in Table 1B provides a unique "Contig ID" identification for each contig sequence. The fourth column provides the "SEQ ID NO:" identifier for each of the contig polynucleotide sequences disclosed in Table 1B. The fifth column, "ORF (From-To)", provides the location (i.e., nucleotide position numbers) within the polynucleotide sequence "SEQ ID NO:X" that delineate the preferred open reading frame (ORF) shown in the sequence listing and referenced in Table 1B, column 6, as SEQ ID NO:Y. Where the nucleotide position number "To" is lower than the nucleotide position number "From", the preferred ORF is the reverse complement of the referenced polynucleotide sequence.

[83] The sixth column in Table 1B provides the corresponding SEQ ID NO:Y for the polypeptide sequence encoded by the preferred ORF delineated in column 5. In one embodiment, the invention provides an amino acid sequence comprising, or alternatively consisting of, a polypeptide encoded by the portion of SEQ ID NO:X delineated by "ORF (From-To)". Also provided are polynucleotides encoding such amino acid sequences and the complementary strand thereto.

[84] Column 7 in Table 1B lists residues comprising epitopes contained in the polypeptides encoded by the preferred ORF (SEQ ID NO:Y), as predicted using the algorithm of Jameson and Wolf, (1988) Comp. Appl. Biosci. 4:181-186. The Jameson-

Wolf antigenic analysis was performed using the computer program PRÓTEAN (Version 3.11 for the Power Macintosh, DNASTAR, Inc., 1228 South Park Street Madison, WI). In specific embodiments, polypeptides of the invention comprise, or alternatively consist of, at least one, two, three, four, five or more of the predicted epitopes as described in Table 1B. It will be appreciated that depending on the analytical criteria used to predict antigenic determinants, the exact address of the determinant may vary slightly.

[85] Column 8, in Table 1B, provides an expression profile and library code: count for each of the contig sequences (SEQ ID NO:X) disclosed in Table 1B, which can routinely be combined with the information provided in Table 4 and used to determine the tissues, cells, and/or cell line libraries which predominantly express the polynucleotides of the invention. The first number in column 8 (preceding the colon), represents the tissue/cell source identifier code corresponding to the code and description provided in Table 4. For those identifier codes in which the first two letters are not "AR", the second number in column 8 (following the colon) represents the number of times a sequence corresponding to the reference polynucleotide sequence was identified in the tissue/cell source. Those tissue/cell source identifier codes in which the first two letters are "AR" designate information generated using DNA array technology. Utilizing this technology, cDNAs were amplified by PCR and then transferred, in duplicate, onto the array. Gene expression was assayed through hybridization of first strand cDNA probes to the DNA array. cDNA probes were generated from total RNA extracted from a variety of different tissues and cell lines. Probe synthesis was performed in the presence of ³³P dCTP, using oligo(dT) to prime reverse transcription. After hybridization, high stringency washing conditions were employed to remove non-specific hybrids from the array. The remaining signal, emanating from each gene target, was measured using a Phosphorimager. Gene expression was reported as Phosphor Stimulating Luminescence (PSL) which reflects the level of phosphor signal generated from the probe hybridized to each of the gene targets represented on the array. A local background signal subtraction was performed before the total signal generated from each array was used to normalize gene expression between the different hybridizations. The value presented after "[array code]:" represents the mean of the duplicate values, following background subtraction and probe normalization. One of skill in the art could routinely use this information to identify normal and/or diseased tissue(s) which show a predominant expression pattern of the corresponding

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polynucleotide of the invention or to identify polynucleotides which show predominant and/or specific tissue and/or cell expression.

[86] Column 9 in Table 1B provides a chromosomal map location for certain polynucleotides of the invention. Chromosomal location was determined by finding exact matches to EST and cDNA sequences contained in the NCBI (National Center for Biotechnology Information) UniGene database. Each sequence in the UniGene database is assigned to a "cluster"; all of the ESTs, cDNAs, and STSs in a cluster are believed to be derived from a single gene. Chromosomal mapping data is often available for one or more sequence(s) in a UniGene cluster; this data (if consistent) is then applied to the cluster as a whole. Thus, it is possible to infer the chromosomal location of a new polynucleotide sequence by determining its identity with a mapped UniGene cluster.

[87] A modified version of the computer program BLASTN (Altschul, et al., J. Mol. Biol. 215:403-410 (1990), and Gish, and States, Nat. Genet. 3:266-272) (1993) was used to search the UniGene database for EST or cDNA sequences that contain exact or near-exact matches to a polynucleotide sequence of the invention (the 'Query'). A sequence from the UniGene database (the 'Subject') was said to be an exact match if it contained a segment of 50 nucleotides in length such that 48 of those nucleotides were in the same order as found in the Query sequence. If all of the matches that met this criteria were in the same UniGene cluster, and mapping data was available for this cluster, it is indicated in Table 1B under the heading "Cytologic Band". Where a cluster had been further localized to a distinct cytologic band, that band is disclosed; where no banding information was available, but the gene had been localized to a single chromosome, the chromosome is disclosed.

[88] Once a presumptive chromosomal location was determined for a polynucleotide of the invention, an associated disease locus was identified by comparison with a database of diseases which have been experimentally associated with genetic loci. The database used was the Morbid Map, derived from OMIM™ ("Online Mendelian Inheritance in Man"; McKusick-Nathans Institute for Genetic Medicine, Johns Hopkins University (Baltimore, MD) and National Center for Biotechnology Information, National Library of Medicine (Bethesda, MD) 2000; World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>). If the putative chromosomal location of a polynucleotide of the invention (Query sequence)

was associated with a disease in the Morbid Map database, an OMIM reference identification number was noted in column 10, Table 1B, labelled "OMIM Disease Reference(s). Table 5 is a key to the OMIM reference identification numbers (column 1), and provides a description of the associated disease in Column 2.

[89] Table 1C summarizes additional polynucleotides encompassed by the invention (including cDNA clones related to the sequences (Clone ID NO:Z), contig sequences (contig identifier (Contig ID:) contig nucleotide sequence identifiers (SEQ ID NO:X)), and genomic sequences (SEQ ID NO:B). The first column provides a unique clone identifier, "Clone ID NO:Z", for a cDNA clone related to each contig sequence. The second column provides the sequence identifier, "SEQ ID NO:X", for each contig sequence. The third column provides a unique contig identifier, "Contig ID:" for each contig sequence. The fourth column, provides a BAC identifier "BAC ID NO:A" for the BAC clone referenced in the corresponding row of the table. The fifth column provides the nucleotide sequence identifier, "SEQ ID NO:B" for a fragment of the BAC clone identified in column four of the corresponding row of the table. The sixth column, "Exon From-To", provides the location (i.e., nucleotide position numbers) within the polynucleotide sequence of SEQ ID NO:B which delineate certain polynucleotides of the invention that are also exemplary members of polynucleotide sequences that encode polypeptides of the invention (e.g., polypeptides containing amino acid sequences encoded by the polynucleotide sequences delineated in column six, and fragments and variants thereof).

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TABLE 1C

Clone ID	SEQ ID No:X	CONTIG ID	BAC ID: A	SEQ ID NO:B	EXON From-To
H6BSF56	11	762968	AC069362	1019	1-131
H6BSF56	11	762968	AC027584	1020	1-162
H6BSF56	11	762968	AC011101	1021	1-100
H6BSF56	11	762968	AC073446	1022	1-140
H6BSF56	11	762968	AC026556	1023	1-114
H6BSF56	11	762968	AL136171	1024	1-61
H6BSF56	11	762968	AC025975	1025	1-136
H6BSF56	11	762968	AC073219	1026	1-123
H6BSF56	11	762968	AL162741	1027	1-45
H6BSF56	11	762968	AC027584	1028	1-368
H6BSF56	11	762968	AC073446	1029	1-52
					2626-2925
H6BSF56	11	762968	AL162741	1030	1-102
H6EEC72	13	889401	AC012314	1031	1-181
					1281-1463
					2719-2983
					3158-3411
					3804-6347
					6745-6879
					7118-7319
					7420-7521
					7859-8305
					8552-8602
					9988-10334
					10415-10778
					11003-11127
					11210-11303
					11334-11832
					13093-13145
					13703-13837
					13918-14152
					15415-15511
					15613-15742
					15998-16087
					16231-16307
					16447-17211
					18520-18796
					21777-22001
H6EEC72	13	889401	AC009968	1032	1-180
					1275-1457
					2712-2976
					3150-3403
					3796-6332
					6730-6864
					7103-7303
					7404-7505
					7843-8289
					8536-8586
					9970-10312
					10393-10756
					10981-11105
					11188-11805
					13068-13120

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					13678-13812 13905-13994
H6EEC72	13	889401	AC012314	1033	1-43 861-1031 1576-1743 1924-2132 2203-2432 2473-2905 3177-3360 3651-4332 4422-4583 4830-4995 5086-5365
H6EEC72	13	889401	AC009968	1034	1-43 857-1027 1570-1737 1918-2126 2197-2426 2467-2899 3171-3354 3644-4326 4416-4577 4824-4989 5080-5360
HACAB68	14	584773	AL160283	1035	1-2811
HACAB68	14	584773	AL354793	1036	1-3734 3843-4723
HACAB68	14	584773	AL356058	1037	1-3055 3165-4045
HACBJ56	15	847112	AC069497	1038	1-117 2470-3367 4908-5262 5641-5756 7886-8200 9815-11138
HACBJ56	15	847112	AC007104	1039	1-802 2342-2695 3074-3189 5319-5633 7248-8571
HACBJ56	15	847112	AC069497	1040	1-453
HACBJ56	15	847112	AC007104	1041	1-453
HACBS22	16	847113	AC012073	1042	1-134 718-833 1002-1132 2357-2516 3762-3945 5344-5477 7446-7594 7742-7904 10636-10725 11138-12223 12583-12977 13095-13178 14224-14532 14668-14841 15779-16124 16257-16343 16508-16826 17489-17757

					17847-18008 19028-19192 19755-23561 24286-24717 24920-25347 25567-25741 26629-26891 27895-27968
HACBS22	16	847113	AC012073	1043	1-545
HADMB15	19	847116	AC026666	1044	1-385 406-780
HADMB15	19	847116	AC026281	1045	1-114 430-875 896-1262
HAGDW20	21	637489	AC006453	1046	1-1568
HAGDW20	21	637489	AC005629	1047	1-1569
HAGDW20	21	637489	AC010098	1048	1-1569
HAGDW20	21	637489	AC006453	1049	1-438
HAGDW20	21	637489	AC006453	1050	1-375
HAGDW20	21	637489	AC005629	1051	1-438
HAGDW20	21	637489	AC005629	1052	1-375
HAGFS57	24	847120	AC021238	1053	1-140 3343-3636 5052-5179 5712-5796 6486-6918 7867-8404 8934-9513 9711-10538 10984-11992 12080-12349 12485-12857 13895-14212 14994-15054 15169-15297 16132-16211 17721-17811 18135-18354 18363-18444 19661-19720 19841-20784 20920-21236 22168-24079
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HSSGJ58	412	747714	AL355491	1936	1-1936
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HT3BF49	417	838620	AL355304	1945	1-2144
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HT4FV41	418	853400	AC005331	1950	1-88 224-324 462-2454
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HT5FX79	419	794169	AC020978	1954	1-4351 4423-4590 4875-5061 5211-5413 5519-5726 5755-6138 6281-6319 6402-7114 7359-7460 7715-7918 8030-8144 8612-9037 9280-9760
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HTEDJ28	427	762845	AC025974	1962	1-2357
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HTEDS12	428	838621	AC021491	1964	1-124 290-781 1447-1562 1650-1767 2309-2417 3273-3466 3935-4120 5213-5358 6216-6605 7621-7744 8491-8761 9044-9175 9353-9523 9966-10843 11395-11839
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HTEEF26	431	789606	AC006329	1970	1-118 290-360 635-771 1248-1417 2755-2831 3548-3667 4852-4986 5016-5119 5247-5774 6507-8421
HTEEF26	431	789606	AC006329	1971	1-367
HTEEF26	432	879704	AC006329	1972	1-118 290-360 635-771 1248-1417 2755-2831 3548-3667 4852-4986 5016-5119 5247-5774 6507-8421
HTEEF26	432	879704	AC006329	1973	1-367
HTEGS11	435	862066	AC018762	1974	1-2894
HTEHA56	436	806461	AC008751	1975	1-469 1023-1372 1542-1694 1724-3063 3371-3477

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HTEHA56	436	806461	AC009763	1976	1-1487
HTEHA56	436	806461	AC008749	1977	1-1487
HTEHA56	436	806461	AC008751	1978	1-575
HTEHA56	436	806461	AC009763	1979	1-577
HTEHA56	436	806461	AC009763	1980	1-859
HTEHA56	436	806461	AC008749	1981	1-575
HTEHA56	436	806461	AC008749	1982	1-582
HTEHU59	437	840385	AP001003	1983	1-3207
HTEHU59	437	840385	AP001557	1984	1-3206
HTEHU59	437	840385	AP001156	1985	1-3207
HTEHU59	437	840385	AP001003	1986	1-863
HTEHU59	437	840385	AP001003	1987	1-1399 1504-1948 1956-2672 2761-2905 3007-3135 3290-3445 3537-3653 3746-3913 4010-4131 4251-4428
HTEHU59	437	840385	AP001557	1988	1-863
HTEHU59	437	840385	AP001557	1989	1-1395 1500-1944 1952-2667 2757-2900 3002-3130 3285-3439
HTEHU59	437	840385	AP001156	1990	1-1396 1502-1945 1953-2668
HTEHU59	437	840385	AP001156	1991	1-863
HTEJD29	438	695798	AL354733	1992	1-1292
HTEJD29	438	695798	AC007943	1993	1-1292
HTEJD29	438	695798	AL354733	1994	1-184
HTEJD29	438	695798	AL354733	1995	1-59 1212-1284 1905-1956 2351-2840 4126-5105 5892-6298 6726-7122 7204-7713 7747-7932
HTHBZ06	443	832477	AC068768	1996	1-835
HTLAP64	444	603913	AC004556	1997	1-1668 2186-3003 3754-4253 4400-4483 5365-5868 8438-8508 8913-9031 9113-9151
HTLAP64	444	603913	AC051649	1998	1-1669 2187-3004 3755-4254

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HTLBT80	445	840045	AL133227	1999	1-51 476-521 842-1226 1375-1490 3745-4016 4046-4229 4430-4855 5300-6053 6598-6883 7406-7446 7461-8437 8550-8681 8888-8919 8943-9353 9458-9544 9834-10607 11550-11629 12196-12374 13532-14886
HTLBT80	445	840045	AL133227	2000	1-32 712-1071 3453-3870 4197-4326 4639-4751 5131-5202 5588-5638 7454-8108 8670-8767 9511-9692 9754-10134 11109-11226 12456-12607 15237-15316 18143-18311 18429-18478 20682-20982 20988-21295 22686-23061 23358-23495 24076-24612 25196-25334 26760-26926 27041-27152 27271-27379 27697-28289 29024-29340 29761-29840 31168-32681
HTLDA84	446	686397	AC013252	2001	1-193 1090-1263 2131-2278 2342-2772 3175-3278 3880-4063 5308-5664

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HTLDA84	446	686397	AC013252	2002	1-355
HTLDU78	448	637702	AC011444	2003	1-1305
HTLDU78	448	637702	AC011444	2004	1-285
HTLDU78	448	637702	AC011444	2005	1-274
HTLEC82	449	811992	AC019337	2006	1-1139 1384-1619 3675-3800 5094-5426 5777-6057 6169-8159
HTLEC82	449	811992	AC025769	2007	1-1141 1386-1621 3679-3804 5102-5434 5785-6065 6177-8168 8171-9355 9390-9624 9657-10390 11962-12241 12874-13031 13270-13327
HTLEC82	449	811992	AC008537	2008	1-1141 1385-1620 3677-3802 5098-5430 5781-6061 6173-8165
HTLEC82	449	811992	AC019337	2009	1-1182
HTLEC82	449	811992	AC008537	2010	1-1186
HTLEV48	451	723799	AL079300	2011	1-833 1783-2055 2908-3362 3583-4048
HTLEV48	451	723799	AL079300	2012	1-163
HTLFA13	452	535937	AC022007	2013	1-1127
HTLFA13	452	535937	AC021995	2014	1-1115
HTLFA13	452	535937	AC007783	2015	1-1144
HTLFA13	452	535937	AC022007	2016	1-1729
HTLFA13	452	535937	AC022007	2017	1-179 184-696
HTLFA13	452	535937	AC021995	2018	1-106 132-190 674-831 1456-1588 3423-4270 4811-4933 5118-5304

HTLFA13	452	535937	AC021995	2019	1-179 184-696 894-945
HTLFA13	452	535937	AC007783	2020	1-169 180-258 681-859 864-1376 3240-3503
HTLFA13	452	535937	AC007783	2021	1-1729
HTLGI89	454	835069	AC048342	2022	1-130
HTLGI89	454	835069	AC009453	2023	1-143
HTLGI89	454	835069	AC022231	2024	1-151
HTLGI89	454	835069	AC009524	2025	1-151
HTLGI89	454	835069	AC048342	2026	1-118
HTLFI12	456	834946	AC011953	2027	1-126
HTNAM63	462	566880	AL160261	2028	1-498 786-1786
HTNAM63	462	566880	AL160261	2029	1-141
HTOAI50	464	638623	AC040933	2030	1-1413
HTOAI50	464	638623	AC025531	2031	1-1411
HTOAI50	464	638623	AC040933	2032	1-498
HTOAI50	464	638623	AC025531	2033	1-498
HTOAM11	465	664508	AC002369	2034	1-586 2559-2651 3329-3426 3756-5088
HTOAM11	465	664508	AP001486	2035	1-1191
HTOAM11	465	664508	AP000875	2036	1-1192
HTOAM11	465	664508	AC002369	2037	1-228
HTOAM11	465	664508	AP001486	2038	1-711
HTOAM11	465	664508	AP001486	2039	1-374
HTOAM11	465	664508	AP000875	2040	1-710
HTODH57	466	823126	AL136531	2041	1-1646
HTODH57	466	823126	AL136531	2042	1-510
HTODH83	467	580884	AC012046	2043	1-1972
HTODH83	467	580884	AC012046	2044	1-105
HTOGR38	469	824639	AL359923	2045	1-949
HTOGR38	469	824639	AL359923	2046	1-311 1036-1359
HTOGR38	469	824639	AL359923	2047	1-294
HTOHO21	470	732808	AC022221	2048	1-85 394-740 781-1562 1622-2429 3831-4082 4239-6053 7230-7365 8195-8379 11677-11990 12508-12710
HTOHO21	470	732808	AC007897	2049	1-1586 2763-2898 3728-3912 7210-7523 8041-8243
HTOHO21	470	732808	AC022221	2050	1-184
HTOHO21	470	732808	AC007897	2051	1-184
HTOJL95	472	806212	AC011859	2052	1-2853
HTOJL95	472	806212	AC026347	2053	1-2853

HTOJL95	472	806212	AC011859	2054	1-421
HTOJL95	472	806212	AC011859	2055	1-340
HTOJL95	472	806212	AC026347	2056	1-340
HTOJL95	472	806212	AC026347	2057	1-421
HTOJL95	473	762851	AC011859	2058	1-2853
HTOJL95	473	762851	AC026347	2059	1-2853
HTOJL95	473	762851	AC011859	2060	1-421
HTOJL95	473	762851	AC011859	2061	1-340
HTOJL95	473	762851	AC026347	2062	1-340
HTOJL95	473	762851	AC026347	2063	1-421
HTSFJ32	475	637720	AC015734	2064	1-80 562-915 925-4400
HTSFJ32	475	637720	AC015734	2065	1-463
HTSFJ32	475	637720	AC015734	2066	1-359
HTTEE41	477	840950	AC018921	2067	1-92 318-578 837-912 1091-1249 1321-1387 1862-2192 2485-2579 2708-2831 3685-4257 4547-5127 5811-6037 6562-7076 7541-7678 8069-8191 10100-10207 11102-11688 11721-11847 12201-12335 12532-12641 12888-12991 13027-13546 13637-16146
HTTEE41	477	840950	AC018921	2068	1-100
HTWEH94	479	561680	AC004858	2069	1-1349 1370-1744
HTWEH94	479	561680	AC004858	2070	1-94
HTWEH94	479	561680	AC004858	2071	1-199
HTXDB22	481	853407	AL031775	2072	1-701 1446-1660 2327-5963 5998-6343 6348-9247 9973-10269 11408-11597
HTXDB22	481	853407	AL133264	2073	1-590 628-1412 3625-3805 5513-5637 6165-6792 7435-7538 7644-8370 8448-8734 8778-8979 9234-10123

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HTXDB22	481	853407	AL031775	2074	1-202 457-1346
HTXDC38	482	801935	AC040160	2075	1-122 511-831 1253-1314 1392-1780 1873-2177
HTXDC38	482	801935	AC008594	2076	1-122 511-831 1253-1314 1392-1780 1873-2177
HTXDC38	482	801935	AC040160	2077	1-1122 1212-2163 2234-2809 2849-3163 4270-5496 5517-6166 7170-7347 7580-7727 7852-7997 8090-8180 8268-8382 8648-8742 8815-8925
HTXDC38	482	801935	AC008594	2078	1-1122 1212-2163 2234-2809 2851-3145 4270-5497 5518-6167 7169-7346 7579-7726 7851-7996 8089-8179 8267-8381 8647-8741 8814-8924
HTXDC77	483	844258	AC004182	2079	1-2744 2917-3357
HTXDC77	483	844258	AC018433	2080	1-2744 2917-3357
HTXDD61	484	853408	AC024267	2081	1-1098
HTXDD61	484	853408	AC024267	2082	1-255
HTXET11	486	581521	AC011802	2083	1-984
HTXET11	486	581521	AC025414	2084	1-984
HTXET11	486	581521	AC011802	2085	1-36 836-964 4059-5438 6005-6176 6789-7120 7124-7588 7735-7827

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HTXET11	486	581521	AC025414	2086	1-36 836-964 4059-5438 6002-6173 6786-7117 7121-7585 7732-7809
HTXFA72	487	853410	AP001812	2087	1-1015
HTXFA72	487	853410	AP000822	2088	1-1015
HTXFA72	487	853410	AP001812	2089	1-130
HTXFA72	487	853410	AP000822	2090	1-527
HTXJY08	488	637774	AC005962	2091	1-2075
HTXJY08	488	637774	AC004757	2092	1-2075
HTXJY08	488	637774	AC005962	2093	1-478
HTXJY08	488	637774	AC005962	2094	1-1011
HTXJY08	488	637774	AC004757	2095	1-478
HTXJY08	488	637774	AC004757	2096	1-1011
HTXKF95	489	834438	AC004242	2097	1-981
HTXKF95	489	834438	AC008083	2098	1-981
HTXKF95	489	834438	AC004242	2099	1-984
HTXKF95	489	834438	AC004242	2100	1-118
HTXKF95	489	834438	AC008083	2101	1-984
HTXKF95	489	834438	AC008083	2102	1-173
HUFCL31	491	801938	AC012255	2103	1-417 834-1753 1788-1918 2176-2628 2755-2971 3036-5033
HUFCL31	491	801938	AC012255	2104	1-134
HUKBT67	492	844446	AC073594	2105	1-391 604-856 1324-1453 1957-2054 2407-2953 3443-5533
HUKBT67	492	844446	AC076968	2106	1-392 605-858 1326-1455 1959-2056 2409-2956 3447-5543
HUKBT67	492	844446	AC010892	2107	1-391 604-857 1325-1454 1958-2055 2408-2955 3446-5538
HUKBT67	492	844446	AC068986	2108	1-391 604-857 1325-1454 1958-2055 2408-2955 3445-5537
HUKBT67	492	844446	AC010892	2109	1-436
HUKBT67	492	844446	AC010892	2110	1-368
HUKBT67	492	844446	AC068986	2111	1-436

HUSCJ14	495	894699	AC007040	2112	1-149 394-889 1061-1139 2097-2249 2852-3007 5021-5089 5217-5919 6119-8896
HUSCJ14	495	894699	AC007040	2113	1-854
HUSCJ14	495	894699	AC007040	2114	1-397
HUSGU40	497	684975	AC072032	2115	1-364
HUSGU40	497	684975	AC022305	2116	1-686
HUSGU40	497	684975	AC078916	2117	1-364
HUSGU40	497	684975	AC072032	2118	1-288
HUSGU40	497	684975	AC078916	2119	1-288
HUSIR18	498	762858	AC068055	2120	1-149
HUSIR18	498	762858	AC02231	2121	1-151
HUSIR18	498	762858	AC010694	2122	1-202
HUSIR18	498	762858	AL160163	2123	1-258 1798-4171
HUSIR18	498	762858	AC027300	2124	1-158
HUSIR18	498	762858	AC073047	2125	1-170
HUSIR18	498	762858	AC009524	2126	1-151
HUSIR18	498	762858	AC068055	2127	1-77
HUSIR18	498	762858	AC010694	2128	1-77
HUSIR18	498	762858	AL160163	2129	1-117
HWBBQ70	501	689121	AL031120	2130	1-1940
HWBBQ70	501	689121	AL137003	2131	1-292
HWBBQ70	501	689121	AL031120	2132	1-689
HWBBQ70	501	689121	AL031120	2133	1-102
HWBBQ70	501	689121	AL137003	2134	1-689
HWBCN36	502	722259	AL031296	2135	1-670 1590-2584 3609-3751 4204-4803 4847-5271 9874-10146 11847-12328 12493-13051 13395-13635 15455-15917 17288-17739 18945-19908 21414-22006 27737-27823 35955-36575 36643-37204 37341-37504 39154-39312 41736-42263 47221-47669 47712-48167 50898-51095 51163-51655 51716-52580 52706-58181
HWBCN36	502	722259	AL109757	2136	1-670 1590-2583 3578-3751

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HWBCN36	502	722259	AL031296	2137	1-274
HWBCN36	502	722259	AL109757	2138	1-425
HWBDJ08	503	762860	AL133351	2139	1-238 2679-2860 6204-6544 6911-7399 7795-7909 8430-8914 9187-9620 9744-10234 11159-11190 11310-11737 12408-16037
HWBDJ08	503	762860	AC013339	2140	1-238 2699-2880 6224-6564 6931-7419 7815-7929 8449-8932 9205-9638 9762-10130 10144-10309 11380-11807 12478-16107
HWBDJ08	503	762860	AL133351	2141	1-466
HWBDJ08	503	762860	AC013339	2142	1-466
HWDAC26	505	821335	AC004947	2143	1-1669
HWDA96	506	796743	AL121753	2144	1-77 91-640 2531-2639 3380-3625 3692-4433 4677-4862 5043-5355 5532-5893 6299-10579 12966-13230 14676-15242 15749-15996 16066-16393 16675-17238 17381-17885 18029-18260 19347-19477 20064-20199 20849-21010
HWDA96	506	796743	AL356652	2145	1-77 91-640 2531-2639 3380-3625 3692-4433 4677-4862 5043-5355 5532-5893 6299-10590 12979-13243 14689-15255 15762-16052 16079-16406

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HWDAG96	506	796743	AL121753	2146	1-437
HWDAG96	506	796743	AL121753	2147	1-638 793-854
HWDAG96	506	796743	AL356652	2148	1-437
HWDAG96	506	796743	AL356652	2149	1-638 793-854
HWDJ01	507	794016	AC015551	2150	1-670
HWDJ01	507	794016	AC019214	2151	1-670
HWHPB78	508	740778	AL157945	2152	1-300 364-790 1344-1519 1584-1709 2403-2580 4780-4968 5485-5559 5960-6128 6243-6955 7258-7317 9073-9145 9404-9544 10342-10513 10746-11354 12004-12578 12863-13087 13224-13382 13993-14047 14319-14444 14753-14878 15465-15713 16007-16123 17413-17740 17817-18127 18231-18634 18771-18881 19945-20231 21024-21169 23112-23363 23692-24413
HWHPB78	508	740778	AC026283	2153	1-292 353-776 1340-1506 1568-1696 2408-2534 4767-4955 5472-5546 5957-6293 6373-7085 7386-7445 9201-9273 9532-9672 10470-10641 10873-11481 12131-12705 12990-13214

					13351-13509 14119-14173 14445-14570 14879-15004 15604-15844 16133-16253 17540-17867 17944-18254 18356-18755 18892-19002 20066-20352 21146-21308 23235-23486 23813-24533
HWHPB78	508	740778	AL157945	2154	1-490
HWHPB78	508	740778	AC026283	2155	1-318
HYABC84	509	789854	AL132825	2156	1-2512 2604-2740 2974-3241
HYABC84	509	789854	AL132825	2157	1-553 1059-1263 3121-3476 5284-5734 6284-6513 6786-7426 8674-8733 10656-10933 11453-11555 12991-13079 13839-14281 14527-14827 15156-15685 15835-16046 16166-16604 16736-19566 19658-19794 20028-20295
HYABC84	509	789854	AL132825	2158	1-188
HYABC84	510	865064	AL132825	2159	1-2512 2604-2740 2974-3241
HYABC84	510	865064	AL132825	2160	1-553 1059-1263 3121-3476 5284-5734 6284-6513 6786-7426 8674-8733 10656-10933 11453-11555 12991-13079 13839-14281 14527-14827 15156-15685 15835-16046 16166-16604 16736-19566 19658-19794 20028-20295
HYABC84	510	865064	AL132825	2161	1-188

[90] **Tables 1D and 1E:** The polynucleotides or polypeptides, or agonists or antagonists of the present invention can be used in assays to test for one or more biological activities. If these polynucleotides and polypeptides do exhibit activity in a particular assay, it is likely that these molecules may be involved in the diseases associated with the biological activity. Thus, the polynucleotides or polypeptides, or agonists or antagonists could be used to treat the associated disease.

[91] The present invention encompasses methods of preventing, treating, diagnosing, or ameliorating a disease or disorder. In preferred embodiments, the present invention encompasses a method of treating a disease or disorder listed in the "Preferred Indications" columns of Table 1D and Table 1E; comprising administering to a patient in which such treatment, prevention, or amelioration is desired a protein, nucleic acid, or antibody of the invention (or fragment or variant thereof) in an amount effective to treat, prevent, diagnose, or ameliorate the disease or disorder. The first and second columns of Table 1D show the "Gene No." and "cDNA Clone ID No.", respectively, indicating certain nucleic acids and proteins (or antibodies against the same) of the invention (including polynucleotide, polypeptide, and antibody fragments or variants thereof) that may be used in preventing, treating, diagnosing, or ameliorating the disease(s) or disorder(s) indicated in the corresponding row in Column 3 of Table 1D.

[92] In another embodiment, the present invention also encompasses methods of preventing, treating, diagnosing, or ameliorating a disease or disorder listed in the "Preferred Indications" column of Table 1D and Table 1E; comprising administering to a patient combinations of the proteins, nucleic acids, or antibodies of the invention (or fragments or variants thereof), sharing similar indications as shown in the corresponding rows in Column 3 of Table 1D.

[93] The "Preferred Indications" columns of Table 1D and Table 1E describe diseases, disorders, and/or conditions that may be treated, prevented, diagnosed, or ameliorated by a protein, nucleic acid, or antibody of the invention (or fragment or variant thereof).

[94] The recitation of "Cancer" in the "Preferred Indications" columns indicates that the corresponding nucleic acid and protein, or antibody against the same, of the invention (or fragment or variant thereof) may be used for example, to diagnose, treat, prevent, and/or

ameliorate diseases and/or disorders relating to neoplastic diseases (e.g., leukemias, cancers, and/or as described below under “Hyperproliferative Disorders”).

[95] In specific embodiments, a protein, nucleic acid, or antibody of the invention (or fragment or variant thereof) having a “Cancer” recitation in the “Preferred Indication” column of Table 1D may be used for example, to diagnose, treat, prevent, and/or ameliorate a neoplasm located in a tissue selected from the group consisting of: colon, abdomen, bone, breast, digestive system, liver, pancreas, prostate, peritoneum, lung, blood (e.g., leukemia), endocrine glands (adrenal, parathyroid, pituitary, testicles, ovary, thymus, thyroid), uterus, eye, head and neck, nervous (central and peripheral), lymphatic system, pelvic, skin, soft tissue, spleen, thoracic, and urogenital.

[96] In specific embodiments, a protein, nucleic acid, or antibody of the invention (or fragment or variant thereof) having a “Cancer” recitation in the “Preferred Indication” column of Table 1D, may be used for example, to diagnose, treat, prevent, and/or ameliorate a pre-neoplastic condition, selected from the group consisting of: hyperplasia (e.g., endometrial hyperplasia and/or as described in the section entitled “Hyperproliferative Disorders”), metaplasia (e.g., connective tissue metaplasia, atypical metaplasia, and/or as described in the section entitled “Hyperproliferative Disorders”), and/or dysplasia (e.g., cervical dysplasia, and bronchopulmonary dysplasia).

[97] In another specific embodiment, a protein, nucleic acid, or antibody of the invention (or fragment or variant thereof) having a “Cancer” recitation in the “Preferred Indication” column of Table 1D, may be used for example, to diagnose, treat, prevent, and/or ameliorate a benign dysproliferative disorder selected from the group consisting of: benign tumors, fibrocystic conditions, tissue hypertrophy, and/or as described in the section entitled “Hyperproliferative Disorders”.

[98] The recitation of “Immune/Hematopoietic” in the “Preferred Indication” column indicates that the corresponding nucleic acid and protein, or antibody against the same, of the invention (or fragment or variant thereof), may be used for example, to diagnose, treat, prevent, and/or ameliorate diseases and/or disorders relating to neoplastic diseases (e.g., as described below under “Hyperproliferative Disorders”), blood disorders (e.g., as described below under “Immune Activity” “Cardiovascular Disorders” and/or “Blood-Related Disorders”), and infections (e.g., as described below under “Infectious Disease”).

[99] In specific embodiments, a protein, nucleic acid, or antibody of the invention (or fragment or variant thereof) having the “Immune/Hematopoietic” recitation in the “Preferred Indication” column of Table 1D, may be used for example, to diagnose, treat,

prevent, and/or ameliorate a disease or disorder selected from the group consisting of: anemia, pancytopenia, leukopenia, thrombocytopenia, leukemias, Hodgkin's disease, non-Hodgkin's lymphoma, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, asthma, AIDS, autoimmune disease, rheumatoid arthritis, granulomatous disease, immune deficiency, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, systemic lupus erythematosus, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and allergies.

[100] The recitation of "Reproductive" in the "Preferred Indication" column indicates that the corresponding nucleic acid and protein, or antibody against the same, of the invention (or fragment or variant thereof), may be used for example, to diagnose, treat, prevent, and/or ameliorate diseases and/or disorders relating to neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the reproductive system (e.g., as described below under "Reproductive System Disorders").

[101] In specific embodiments, a protein, nucleic acid, or antibody of the invention (or fragment or variant thereof) having a "Reproductive" recitation in the "Preferred Indication" column of Table 1D, may be used for example, to diagnose, treat, prevent, and/or ameliorate a disease or disorder selected from the group consisting of: cryptorchism, prostatitis, inguinal hernia, varicocele, leydig cell tumors, verrucous carcinoma, prostatitis, malacoplakia, Peyronie's disease, penile carcinoma, squamous cell hyperplasia, dysmenorrhea, ovarian adenocarcinoma, Turner's syndrome, mucopurulent cervicitis, Sertoli-leydig tumors, ovarian cancer, uterine cancer, pelvic inflammatory disease, testicular cancer, prostate cancer, Klinefelter's syndrome, Young's syndrome, premature ejaculation, diabetes mellitus, cystic fibrosis, Kartagener's syndrome, testicular atrophy, testicular feminization, anorchia, ectopic testis, epididymitis, orchitis, gonorrhea, syphilis, testicular torsion, vasitis nodosa, germ cell tumors, stromal tumors, dysmenorrhea, retroverted uterus, endometriosis, fibroids, adenomyosis, anovulatory bleeding, amenorrhea, Cushing's syndrome, hydatidiform moles, Asherman's syndrome, premature menopause, precocious puberty, uterine polyps, dysfunctional uterine bleeding, cervicitis, chronic cervicitis, mucopurulent cervicitis, cervical dysplasia, cervical polyps, Nabothian cysts, cervical erosion, cervical incompetence, cervical neoplasms, pseudohermaphroditism, and premenstrual syndrome.

[102] The recitation of "Musculoskeletal" in the "Preferred Indication" column indicates that the corresponding nucleic acid and protein, or antibody against the same, of the

invention (or fragment or variant thereof), may be used for example, to diagnose, treat, prevent, and/or ameliorate diseases and/or disorders relating to neoplastic diseases (e.g., as described below under “Hyperproliferative Disorders”), and disorders of the immune system (e.g., as described below under “Immune Activity”).

[103] In specific embodiments, a protein, nucleic acid, or antibody of the invention (or fragment or variant thereof) having a “Musculoskeletal” recitation in the “Preferred Indication” column of Table 1D, may be used for example, to diagnose, treat, prevent, and/or ameliorate a disease or disorder selected from the group consisting of: bone cancers (e.g., osteochondromas, benign chondromas, chondroblastoma, chondromyxoid fibromas, osteoid osteomas, giant cell tumors, multiple myeloma, osteosarcomas), Paget’s Disease, rheumatoid arthritis, systemic lupus erythematosus, osteomyelitis, Lyme Disease, gout, bursitis, tendonitis, osteoporosis, osteoarthritis, muscular dystrophy, mitochondrial myopathy, cachexia, and multiple sclerosis.

[104] The recitation of “Cardiovascular” in the “Preferred Indication” column indicates that the corresponding nucleic acid and protein, or antibody against the same, of the invention (or fragment or variant thereof), may be used for example, to diagnose, treat, prevent, and/or ameliorate diseases and/or disorders relating to neoplastic diseases (e.g., as described below under “Hyperproliferative Disorders”), and disorders of the cardiovascular system (e.g., as described below under “Cardiovascular Disorders”).

[105] In specific embodiments, a protein, nucleic acid, or antibody of the invention (or fragment or variant thereof) having a “Cardiovascular” recitation in the “Preferred Indication” column of Table 1D, may be used for example, to diagnose, treat, prevent, and/or ameliorate a disease or disorder selected from the group consisting of: myxomas, fibromas, rhabdomyomas, cardiovascular abnormalities (e.g., congenital heart defects, cerebral arteriovenous malformations, septal defects), heart disease (e.g., heart failure, congestive heart disease, arrhythmia, tachycardia, fibrillation, pericardial Disease, endocarditis), cardiac arrest, heart valve disease (e.g., stenosis, regurgitation, prolapse), vascular disease (e.g., hypertension, coronary artery disease, angina, aneurysm, arteriosclerosis, peripheral vascular disease), hyponatremia, hypernatremia, hypokalemia, and hyperkalemia.

[106] The recitation of “Mixed Fetal” in the “Preferred Indication” column indicates that the corresponding nucleic acid and protein, or antibody against the same, of the invention (or fragment or variant thereof), may be used for example, to diagnose, treat, prevent,

and/or ameliorate diseases and/or disorders relating to neoplastic diseases (e.g., as described below under “Hyperproliferative Disorders”).

[107] In specific embodiments, a protein, nucleic acid, or antibody of the invention (or fragment or variant thereof) having a “Mixed Fetal” recitation in the “Preferred Indication” column of Table 1D, may be used for example, to diagnose, treat, prevent, and/or ameliorate a disease or disorder selected from the group consisting of: spina bifida, hydranencephaly, neurofibromatosis, fetal alcohol syndrome, diabetes mellitus, PKU, Down’s syndrome, Patau syndrome, Edwards syndrome, Turner syndrome, Apert syndrome, Carpenter syndrome, Conradi syndrome, Crouzon syndrome, cutis laxa, Cornelia de Lange syndrome, Ellis-van Creveld syndrome, Holt-Oram syndrome, Kartagener syndrome, Meckel-Gruber syndrome, Noonan syndrome, Pallister-Hall syndrome, Rubinstein-Taybi syndrome, Scimitar syndrome, Smith-Lemli-Opitz syndrome, thrombocytopenia-absent radius (TAR) syndrome, Treacher Collins syndrome, Williams syndrome, Hirschsprung’s disease, Meckel’s diverticulum, polycystic kidney disease, Turner’s syndrome, and gonadal dysgenesis, Klippel-Feil syndrome, Ostogenesis imperfecta, muscular dystrophy, Tay-Sachs disease, Wilm’s tumor, neuroblastoma, and retinoblastoma.

[108] The recitation of “Excretory” in the “Preferred Indication” column indicates that the corresponding nucleic acid and protein, or antibody against the same, of the invention (or fragment or variant thereof), may be used for example, to diagnose, treat, prevent, and/or ameliorate diseases and/or disorders relating to neoplastic diseases (e.g., as described below under “Hyperproliferative Disorders”) and renal disorders (e.g., as described below under “Renal Disorders”).

[109] In specific embodiments, a protein, nucleic acid, or antibody of the invention (or fragment or variant thereof) having a “Excretory” recitation in the “Preferred Indication” column of Table 1D, may be used for example, to diagnose, treat, prevent, and/or ameliorate a disease or disorder selected from the group consisting of: bladder cancer, prostate cancer, benign prostatic hyperplasia, bladder disorders (e.g., urinary incontinence, urinary retention, urinary obstruction, urinary tract infections, interstitial cystitis, prostatitis, neurogenic bladder, hematuria), renal disorders (e.g., hydronephrosis, proteinuria, renal failure, pyelonephritis, urolithiasis, reflux nephropathy, and unilateral obstructive uropathy).

[110] The recitation of “Neural/Sensory” in the “Preferred Indication” column indicates that the corresponding nucleic acid and protein, or antibody against the same, of the

invention (or fragment or variant thereof), may be used for example, to diagnose, treat, prevent, and/or ameliorate diseases and/or disorders relating to neoplastic diseases (e.g., as described below under “Hyperproliferative Disorders”) and diseases or disorders of the nervous system (e.g., as described below under “Neural Activity and Neurological Diseases”).

[111] In specific embodiments, a protein, nucleic acid, or antibody of the invention (or fragment or variant thereof) having a “Neural/Sensory” recitation in the “Preferred Indication” column of Table 1D, may be used for example, to diagnose, treat, prevent, and/or ameliorate a disease or disorder selected from the group consisting of: brain cancer (e.g., brain stem glioma, brain tumors, central nervous system (Primary) lymphoma, central nervous system lymphoma, cerebellar astrocytoma, and cerebral astrocytoma, neurodegenerative disorders (e.g., Alzheimer’s Disease, Creutzfeldt-Jakob Disease, Parkinson’s Disease, and Idiopathic Presenile Dementia), encephalomyelitis, cerebral malaria, meningitis, metabolic brain diseases (e.g., phenylketonuria and pyruvate carboxylase deficiency), cerebellar ataxia, ataxia telangiectasia, and AIDS Dementia Complex, schizophrenia, attention deficit disorder, hyperactive attention deficit disorder, autism, and obsessive compulsive disorders.

[112] The recitation of “Respiratory” in the “Preferred Indication” column indicates that the corresponding nucleic acid and protein, or antibody against the same, of the invention (or fragment or variant thereof), may be used for example, to diagnose, treat, prevent, and/or ameliorate diseases and/or disorders relating to neoplastic diseases (e.g., as described below under “Hyperproliferative Disorders”) and diseases or disorders of the respiratory system (e.g., as described below under “Respiratory Disorders”).

[113] In specific embodiments, a protein, nucleic acid, or antibody of the invention (or fragment or variant thereof) having a “Respiratory” recitation in the “Preferred Indication” column of Table 1D, may be used for example, to diagnose, treat, prevent, and/or ameliorate a disease or disorder selected from the group consisting of: cancers of the respiratory system such as larynx cancer, pharynx cancer, trachea cancer, epiglottis cancer, lung cancer, squamous cell carcinomas, small cell (oat cell) carcinomas, large cell carcinomas, and adenocarcinomas. Allergic reactions, cystic fibrosis, sarcoidosis, histiocytosis X, infiltrative lung diseases (e.g., pulmonary fibrosis and lymphoid interstitial pneumonia), obstructive airway diseases (e.g., asthma, emphysema, chronic or acute bronchitis), occupational lung diseases (e.g., silicosis and asbestosis), pneumonia, and pleurisy.

[114] The recitation of “Endocrine” in the “Preferred Indication” column indicates that the corresponding nucleic acid and protein, or antibody against the same, of the invention (or fragment or variant thereof), may be used for example, to diagnose, treat, prevent, and/or ameliorate diseases and/or disorders relating to neoplastic diseases (e.g., as described below under “Hyperproliferative Disorders”) and diseases or disorders of the respiratory system (e.g., as described below under “Respiratory Disorders”), renal disorders (e.g., as described below under “Renal Disorders”), and disorders of the endocrine system (e.g., as described below under “Endocrine Disorders”).

[115] In specific embodiments, a protein, nucleic acid, or antibody of the invention (or fragment or variant thereof) having an “Endocrine” recitation in the “Preferred Indication” column of Table 1D, may be used for example, to diagnose, treat, prevent, and/or ameliorate a disease or disorder selected from the group consisting of: cancers of endocrine tissues and organs (e.g., cancers of the hypothalamus, pituitary gland, thyroid gland, parathyroid glands, pancreas, adrenal glands, ovaries, and testes), diabetes (e.g., diabetes insipidus, type I and type II diabetes mellitus), obesity, disorders related to pituitary glands (e.g., hyperpituitarism, hypopituitarism, and pituitary dwarfism), hypothyroidism, hyperthyroidism, goiter, reproductive disorders (e.g. male and female infertility), disorders related to adrenal glands (e.g., Addison’s Disease, corticosteroid deficiency, and Cushing’s Syndrome), kidney cancer (e.g., hypernephroma, transitional cell cancer, and Wilm’s tumor), diabetic nephropathy, interstitial nephritis, polycystic kidney disease, glomerulonephritis (e.g., IgM mesangial proliferative glomerulonephritis and glomerulonephritis caused by autoimmune disorders; such as Goodpasture’s syndrome), and nephrocalcinosis.

[116] The recitation of “Digestive” in the “Preferred Indication” column indicates that the corresponding nucleic acid and protein, or antibody against the same, of the invention (or fragment or variant thereof), may be used for example, to diagnose, treat, prevent, and/or ameliorate diseases and/or disorders relating to neoplastic diseases (e.g., as described below under “Hyperproliferative Disorders”) and diseases or disorders of the gastrointestinal system (e.g., as described below under “Gastrointestinal Disorders”).

[117] In specific embodiments, a protein, nucleic acid, or antibody of the invention (or fragment or variant thereof) having a “Digestive” recitation in the “Preferred Indication” column of Table 1D, may be used for example, to diagnose, treat, prevent, and/or ameliorate a disease or disorder selected from the group consisting of: ulcerative colitis, appendicitis, Crohn’s disease, hepatitis, hepatic encephalopathy, portal hypertension,

cholelithiasis, cancer of the digestive system (e.g., biliary tract cancer, stomach cancer, colon cancer, gastric cancer, pancreatic cancer, cancer of the bile duct, tumors of the colon (e.g., polyps or cancers), and cirrhosis), pancreatitis, ulcerative disease, pyloric stenosis, gastroenteritis, gastritis, gastric atrophy, benign tumors of the duodenum, distension, irritable bowel syndrome, malabsorption, congenital disorders of the small intestine, bacterial and parasitic infection, megacolon, Hirschsprung's disease, aganglionic megacolon, acquired megacolon, colitis, anorectal disorders (e.g., anal fistulas, hemorrhoids), congenital disorders of the liver (e.g., Wilson's disease, hemochromatosis, cystic fibrosis, biliary atresia, and alpha₁-antitrypsin deficiency), portal hypertension, cholelithiasis, and jaundice.

[118] The recitation of "Connective/Epithelial" in the "Preferred Indication" column indicates that the corresponding nucleic acid and protein, or antibody against the same, of the invention (or fragment or variant thereof), may be used for example, to diagnose, treat, prevent, and/or ameliorate diseases and/or disorders relating to neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), cellular and genetic abnormalities (e.g., as described below under "Diseases at the Cellular Level"), angiogenesis (e.g., as described below under "Anti-Angiogenesis Activity"), and or to promote or inhibit regeneration (e.g., as described below under "Regeneration"), and wound healing (e.g., as described below under "Wound Healing and Epithelial Cell Proliferation").

[119] In specific embodiments, a protein, nucleic acid, or antibody of the invention (or fragment or variant thereof) having a "Connective/Epithelial" recitation in the "Preferred Indication" column of Table 1D, may be used for example, to diagnose, treat, prevent, and/or ameliorate a disease or disorder selected from the group consisting of: connective tissue metaplasia, mixed connective tissue disease, focal epithelial hyperplasia, epithelial metaplasia, mucoepithelial dysplasia, graft v. host disease, polymyositis, cystic hyperplasia, cerebral dysplasia, tissue hypertrophy, Alzheimer's disease, lymphoproliferative disorder, Waldenström's macroglobulinemia, Crohn's disease, pernicious anemia, idiopathic Addison's disease, glomerulonephritis, bullous pemphigoid, Sjögren's syndrome, diabetes mellitus, cystic fibrosis, osteoblastoma, osteoclastoma, osteosarcoma, chondrosarcoma, osteoporosis, osteoarthritis, periodontal disease, wound healing, relapsing polychondritis, vasculitis, polyarteritis nodosa, Wegener's granulomatosis, cellulitis, rheumatoid arthritis, psoriatic arthritis, discoid lupus erythematosus, systemic lupus erythematosus, scleroderma, CREST syndrome, Sjögren's syndrome, polymyositis, dermatomyositis, mixed connective tissue disease, relapsing

polychondritis, vasculitis, Henoch-Schonlein syndrome, erythema nodosum, polyarteritis nodosa, temporal (giant cell) arteritis, Takayasu's arteritis, Wegener's granulomatosis, Reiter's syndrome, Behcet's syndrome, ankylosing spondylitis, cellulitis, keloids, Ehler Danlos syndrome, Marfan syndrome, pseudoxantoma elasticum, osteogenesis imperfecta, chondrodysplasias, epidermolysis bullosa, Alport syndrome, and cutis laxa.

TABLE 1D

Gene No.	Clone ID	Preferred Indications
1	H6BSF56	Cancer
2	H6EDM64	Cancer
3	H6EEC72	Cancer
4	HACAB68	Connective/Epithelial, Immune/Hematopoietic
5	HACBJ56	Cancer
6	HACBS22	Cancer
7	HADDE71	Cancer
8	HADDJ13	Connective/Epithelial
9	HADMB15	Cancer
10	HAGBQ12	Excretory, Neural/Sensory
11	HAGDW20	Neural/Sensory, Reproductive
12	HAGEG10	Cancer
13	HAGEQ79	Cancer
14	HAGFS57	Cancer
15	HAGHN57	Cancer
16	HAHEA15	Cardiovascular
17	HAJAA47	Immune/Hematopoietic
18	HAJAY92	Cancer
19	HABV67	Cancer
20	HAJCH70	Cancer
21	HAOAG15	Cancer
22	HAQAI92	Digestive, Mixed Fetal, Reproductive
23	HAQCE11	Reproductive
24	HATBI94	Cancer
25	HATCB45	Endocrine, Immune/Hematopoietic
26	HATCD80	Endocrine, Reproductive
27	HATCI03	Endocrine, Immune/Hematopoietic, Neural/Sensory
28	HATEH20	Cancer
29	HBAGD86	Cancer
30	HBCJL35	Cancer
31	HBDAB91	Digestive, Immune/Hematopoietic
32	HBDAB91	Digestive,

		Immune/Hematopoietic
33	HBGBC29	Cancer
34	HBGNC72	Cancer
35	HBHAA05	Neural/Sensory
36	HBHAA81	Cardiovascular, Neural/Sensory
37	HBIAA59	Cancer
38	HBIAAC29	Cancer
39	HBICW51	Digestive, Immune/Hematopoietic, Neural/Sensory
40	HBJAB02	Cancer
41	HBJAC65	Cancer
42	HBJBM12	Immune/Hematopoietic
43	HBJCR46	Cancer
44	HBJDS79	Cancer
45	HBJDW56	Immune/Hematopoietic
46	HBJEL16	Cancer
47	HBJFK45	Immune/Hematopoietic
48	HBJIG20	Cancer
49	HBJKD16	Cancer
50	HBMBM96	Cancer
51	HBMBX01	Cancer
52	HBMTM11	Cancer
53	HBMTX26	Immune/Hematopoietic
54	HBMTY48	Immune/Hematopoietic, Reproductive
55	HBMUH74	Cardiovascular, Immune/Hematopoietic, Reproductive
56	HBMWE61	Immune/Hematopoietic
57	HBNAX40	Cancer
58	HBNBJ76	Cancer
59	HBQAB79	Neural/Sensory
60	HBQAC57	Neural/Sensory
61	HBSAK32	Cancer
62	HBXCM66	Cardiovascular, Neural/Sensory, Reproductive
63	HBXCX15	Immune/Hematopoietic, Neural/Sensory
64	HCDCY76	Cancer
65	HCDL48	Musculoskeletal
66	HCEIG78	Cancer
67	HCE2H52	Immune/Hematopoietic, Neural/Sensory, Reproductive
68	HCE3B04	Cancer
69	HCE5F78	Immune/Hematopoietic, Neural/Sensory
70	HCEDR26	Digestive, Immune/Hematopoietic, Neural/Sensory
71	HCEEE79	Neural/Sensory
72	HCEEQ25	Mixed Fetal, Neural/Sensory
73	HCEEU18	Cancer

74	HCEFZ82	Cancer
75	HCEGX05	Cancer
76	HCFLN88	Cancer
77	HCFLT90	Cancer
78	HCHAB84	Cancer
79	HCMSX51	Cancer
80	HCNCO11	Digestive
81	HCNSD29	Cardiovascular, Digestive, Immune/Hematopoietic
82	HCQBH72	Digestive, Excretory, Immune/Hematopoietic
83	HCQCC96	Cancer
84	HCQCJ56	Cancer
85	HCQCM24	Cancer
86	HCRAJ10	Cancer
87	HCRCF72	Cancer
88	HCRCF78	Cancer
89	HCUAF85	Immune/Hematopoietic
90	HCUCF89	Immune/Hematopoietic
91	HCUCK44	Cancer
92	HCUDD64	Cancer
93	HCWAE64	Immune/Hematopoietic
94	HCWJU39	Endocrine, Immune/Hematopoietic, Neural/Sensory
95	HCWUL09	Immune/Hematopoietic, Neural/Sensory
96	HDHAA42	Cancer
97	HDHEB76	Cancer
98	HDPJCW16	Cancer
99	HDPDI72	Digestive, Immune/Hematopoietic
100	HDPDJ58	Cancer
101	HDPFF10	Cancer
102	HDPFU43	Cancer
103	HDPFY18	Cancer
104	HDPGE24	Cancer
105	HDPJU94	Cancer
106	HDPJC24	Cancer
107	HDPOL37	Immune/Hematopoietic, Reproductive
108	HDPOO76	Cancer
109	HDPJD93	Cancer
110	HDPJQ30	Immune/Hematopoietic
111	HDPJW82	Immune/Hematopoietic
112	HDPJX20	Immune/Hematopoietic
113	HDQHM36	Immune/Hematopoietic
114	HDTAU35	Immune/Hematopoietic
115	HDTAV54	Cancer
116	HDTFX18	Immune/Hematopoietic, Reproductive
117	HDTGW48	Immune/Hematopoietic, Reproductive
118	HDTLM18	Immune/Hematopoietic
119	HE2CA60	Cancer

120	HE2CA60	Cancer
121	HE2CH58	Digestive, Mixed Fetal
122	HE2CM39	Cancer
123	HE2HC60	Cancer
124	HE2PO93	Cancer
125	HE6AU52	Mixed Fetal
126	HE6CS65	Cancer
127	HE6DO92	Immune/Hematopoietic, Mixed Fetal
128	HE6EY13	Cancer
129	HE6FU11	Mixed Fetal, Neural/Sensory, Respiratory
130	HE6FV29	Cancer
131	HE8FC45	Cancer
132	HE8FC45	Cancer
133	HE8FD92	Cancer
134	HE8FD92	Cancer
135	HE8FD92	Cancer
136	HE8FD92	Cancer
137	HE8FD92	Cancer
138	HE8SG96	Mixed Fetal, Musculoskeletal
139	HE8TY46	Cancer
140	HE9CY05	Mixed Fetal
141	HE9EA10	Cancer
142	HE9GG20	Cancer
143	HEBCI18	Cancer
144	HEBCY54	Cancer
145	HEBDF77	Neural/Sensory
146	HEBDQ91	Neural/Sensory
147	HEBFR46	Cancer
148	HEBGE07	Neural/Sensory
149	HEGAU15	Excretory, Immune/Hematopoietic, Reproductive
150	HELAT35	Cardiovascular, Mixed Fetal
151	HELBUS4	Cardiovascular
152	HELGG84	Cancer
153	HELGG84	Cancer
154	HEMEY47	Cardiovascular
155	HEOMC46	Immune/Hematopoietic
156	HEPBA14	Reproductive
157	HEQAH80	Cancer
158	HEQBF89	Reproductive
159	HETCI16	Cancer
160	HETDW58	Cancer
161	HETDY67	Connective/Epithelial, Reproductive
162	HFCDW95	Cancer
163	HFCIE04	Neural/Sensory
164	HFCFD04	Cancer
165	HFCFE20	Cancer
166	HFEAY59	Connective/Epithelial
167	HFGAJ16	Cancer

168	HFIHZ75	Cancer
169	HFIJA29	Cancer
170	HFIJA68	Cancer
171	HFKE505	Cancer
172	HFKEU12	Excretory
173	HFPZ55	Cancer
174	HFPDR62	Immune/Hematopoietic, Neural/Sensory
175	HFPDS07	Cancer
176	HFRAB10	Excretory, Immune/Hematopoietic, Neural/Sensory
177	HFTBM38	Cancer
178	HFTDH56	Cancer
179	HFVGK35	Cancer
180	HFVHW43	Digestive
181	HFXAV37	Immune/Hematopoietic, Neural/Sensory
182	HFXBN86	Neural/Sensory
183	HFXBT66	Neural/Sensory
184	HFXFZ46	Neural/Sensory
185	HGBER72	Cancer
186	HGBEY14	Cancer
187	HGBGN34	Connective/Epithelial, Digestive, Reproductive
188	HGBHP91	Digestive
189	HGCAC19	Cancer
190	HGCAC19	Cancer
191	HGCAC19	Cancer
192	HHEAK45	Cancer
193	HHEGS55	Immune/Hematopoietic
194	HHEOW19	Cancer
195	HHFFF87	Cancer
196	HHFFL34	Cancer
197	HHFFS40	Cancer
198	HHGCS78	Immune/Hematopoietic
199	HHGDT26	Immune/Hematopoietic, Reproductive
200	HHPFU28	Cancer
201	HHPSA85	Cancer
202	HHSBI06	Cancer
203	HHSBI65	Cancer
204	HHSDI53	Cancer
205	HHSFC09	Cancer
206	HHSGL28	Cancer
207	HILCA24	Digestive, Immune/Hematopoietic, Reproductive
208	HILCA24	Digestive, Immune/Hematopoietic, Reproductive
209	HISAT67	Cancer
210	HJBCU75	Cancer
211	HJMAA03	Cancer
212	HJMAV41	Cancer
213	HJMAY90	Cancer

214	HJPBE39	Cancer
215	HJPBK28	Cancer
216	HJPCH08	Cancer
217	HKABU43	Cancer
218	HKACI79	Cancer
219	HKAFF50	Cancer
220	HKGBF25	Cancer
221	HKIXC44	Cancer
222	HKMLK03	Digestive, Excretory, Immune/Hematopoietic
223	HKMLM95	Cancer
224	HKTAB41	Digestive, Excretory
225	HLDBG17	Cancer
226	HLDCAS4	Cancer
227	HLDQU79	Cancer
228	HLDRTO9	Cancer
229	HLHAP05	Immune/Hematopoietic, Neural/Sensory, Respiratory
230	HLHCS23	Respiratory
231	HLIBO72	Digestive
232	HLICE88	Digestive, Mixed Fetal
233	HLICO10	Cancer
234	HLJBS28	Cancer
235	HLMBW89	Cancer
236	HLMGP50	Digestive, Immune/Hematopoietic
237	HLMBJ64	Cancer
238	HLMMX62	Immune/Hematopoietic, Neural/Sensory, Reproductive
239	HLQAS12	Cancer
240	HLQCL64	Cancer
241	HLQCX36	Digestive
242	HLWAF06	Digestive, Immune/Hematopoietic, Reproductive
243	HLWAU42	Cancer
244	HLWAU42	Cancer
245	HLWAV47	Cancer
246	HLWBB73	Cancer
247	HLWCN37	Cancer
248	HLWDB73	Cancer
249	HLYDF73	Immune/Hematopoietic
250	HLYEU59	Immune/Hematopoietic
251	HLYGB19	Cancer
252	HLYGE16	Cancer
253	HLYGY91	Cancer
254	HMCZA04	Cancer
255	HMCZA04	Cancer
256	HMCZA04	Cancer
257	HMCZA04	Cancer
258	HMCZA04	Cancer
259	HMCFH60	Cancer

260	HMDAB29	Digestive, Neural/Sensory
261	HMDAD44	Connective/Epithelial, Immune/Hematopoietic, Neural/Sensory
262	HMEBB82	Cancer
263	HMEDE24	Cancer
264	HMED190	Cancer
265	HMELM75	Cancer
266	HMIK10	Neural/Sensory
267	HMIBF07	Neural/Sensory
268	HMIC180	Cardiovascular, Endocrine, Neural/Sensory
269	HMICP65	Cancer
270	HMJAK70	Neural/Sensory
271	HMSBE04	Immune/Hematopoietic
272	HMSCL38	Digestive, Immune/Hematopoietic, Neural/Sensory
273	HMSCR69	Cancer
274	HMSHC86	Immune/Hematopoietic
275	HMSHU20	Immune/Hematopoietic, Reproductive
276	HMSHY25	Immune/Hematopoietic
277	HMTAB77	Cancer
278	HMUA26	Cancer
279	HMUAN45	Cancer
280	HMVBC31	Cancer
281	HMVDU15	Cancer
282	HMWBL03	Cancer
283	HMWJF53	Cancer
284	HNEAK81	Immune/Hematopoietic
285	HNECL22	Cancer
286	HNECW49	Immune/Hematopoietic
287	HNEDH88	Immune/Hematopoietic
288	HNFA250	Cancer
289	HNFRG08	Immune/Hematopoietic
290	HNFFH34	Cancer
291	HNGAK51	Immune/Hematopoietic
292	HNGAM58	Immune/Hematopoietic
293	HNGBH53	Immune/Hematopoietic
294	HNGDQ38	Immune/Hematopoietic
295	HNGDX18	Cancer
296	HNGDY34	Immune/Hematopoietic
297	HNGEA34	Digestive, Immune/Hematopoietic
298	HNGEQ75	Immune/Hematopoietic, Neural/Sensory
299	HNGGA68	Immune/Hematopoietic, Musculoskeletal
300	HNGGP65	Immune/Hematopoietic
301	HNGHZ69	Immune/Hematopoietic
302	HNGIV64	Immune/Hematopoietic
303	HNGJB41	Immune/Hematopoietic
304	HNGKT41	Immune/Hematopoietic
305	HNGMW45	Immune/Hematopoietic

306	HNGNK44	Immune/Hematopoietic
307	HNGNO53	Immune/Hematopoietic
308	HNGPJ25	Immune/Hematopoietic, Mixed Fetal, Musculoskeletal
309	HNHEN82	Immune/Hematopoietic
310	HNHFE71	Immune/Hematopoietic
311	HNHKG22	Immune/Hematopoietic
312	HNHKB10	Immune/Hematopoietic, Reproductive
313	HNHKS19	Immune/Hematopoietic, Reproductive
314	HNTBT17	Cancer
315	HNTMH79	Cancer
316	HOABP31	Cancer
317	HOABP31	Cancer
318	HOACG07	Cancer
319	HODAG07	Reproductive
320	HODBB70	Reproductive
321	HODBV05	Cancer
322	HODCZ32	Reproductive
323	HOEBK60	Cancer
324	HOFAA78	Reproductive
325	HOFNB74	Reproductive
326	HOFNU55	Reproductive
327	HOGBF01	Reproductive
328	HORBS82	Cancer
329	HORBV76	Cardiovascular, Immune/Hematopoietic, Reproductive
330	HOSDO75	Cancer
331	HOSEC25	Immune/Hematopoietic, Musculoskeletal, Reproductive
332	HOSEI81	Digestive, Musculoskeletal
333	HOSEJ94	Cancer
334	HOUCA21	Connective/Epithelial, Immune/Hematopoietic, Musculoskeletal
335	HOUDE92	Cancer
336	HOUDR07	Cancer
337	HOUED72	Connective/Epithelial
338	HOUFS04	Cancer
339	HOUII25	Cancer
340	HOVBD85	Musculoskeletal, Reproductive
341	HPCAB41	Immune/Hematopoietic, Reproductive
342	HPCAL26	Cancer
343	HPEAD23	Cancer
344	HPFBA54	Reproductive
345	HPFCI36	Cancer
346	HPFDI37	Cancer
347	HPIAA80	Cancer
348	HPJB51	Cancer
349	HPJB51	Cancer

350	HPJBU43	Reproductive
351	HPJCW58	Reproductive
352	HPMBX22	Cancer
353	HPMCJ84	Reproductive
354	HPMCV30	Cancer
355	HPMFH77	Cancer
356	HPQAX38	Cardiovascular
357	HPQAX38	Cardiovascular
358	HPQCB83	Cancer
359	HPQCC53	Cancer
360	HPRBH85	Cancer
361	HPRCA64	Cancer
362	HPRCD35	Cancer
363	HPTRM02	Cancer
364	HPWBA29	Reproductive
365	HPWDK06	Cancer
366	HRAAD30	Cancer
367	HRADA42	Cancer
368	HRADF49	Cancer
369	HRADN25	Cancer
370	HRADT25	Digestive, Excretory
371	HRDAI17	Cancer
372	HRDDQ39	Cancer
373	HRDER22	Cancer
374	HRDEX93	Cancer
375	HRDFK37	Cancer
376	HRGBD54	Cancer
377	HROEA08	Cancer
378	HSAVA08	Immune/Hematopoietic
379	HSAVW42	Cancer
380	HSAWN53	Immune/Hematopoietic
381	HSAWZ40	Immune/Hematopoietic
382	HSAYC41	Excretory, Immune/Hematopoietic, Reproductive
383	HSDZM54	Cancer
384	HSHBF76	Cancer
385	HSIFG47	Digestive
386	HSJBY32	Immune/Hematopoietic, Musculoskeletal, Neural/Sensory
387	HSKDR27	Cancer
388	HSLHG78	Cancer
389	HSLHX15	Musculoskeletal
390	HSNAP85	Cancer
391	HSNAZ09	Cancer
392	HSNBM34	Digestive
393	HSOAH16	Digestive
394	HSQBF66	Cancer
395	HSQDO85	Cancer
396	HSQES57	Cancer
397	HSRBE06	Cancer
398	HSSDI26	Musculoskeletal
399	HSSEA64	Cancer
400	HSSEF77	Cancer
401	HSSFE38	Cancer

402	HSSGJ58	Musculoskeletal
403	HSWBE76	Cancer
404	HSXCP38	Cardiovascular, Neural/Sensory
405	HSYBI06	Cancer
406	HT1SC27	Digestive, Immune/Hematopoietic, Reproductive
407	HT3BF49	Immune/Hematopoietic
408	HT4FV41	Cancer
409	HT5FX79	Cancer
410	HT5GR59	Cancer
411	HTAEI78	Immune/Hematopoietic
412	HTDAA78	Cancer
413	HTEAG62	Digestive, Immune/Hematopoietic, Reproductive
414	HTECB02	Cancer
415	HTECC15	Cancer
416	HTEDF18	Reproductive
417	HTEDJ28	Cancer
418	HTEDS12	Cardiovascular, Immune/Hematopoietic, Reproductive
419	HTEED26	Cancer
420	HTEED26	Cancer
421	HTEEF26	Cancer
422	HTEEF26	Cancer
423	HTEEW69	Reproductive
424	HTEGS07	Reproductive
425	HTEGS11	Cancer
426	HTEHA56	Cancer
427	HTEHU59	Cancer
428	HTEJD29	Reproductive
429	HTEKM46	Cancer
430	HTEMQ17	Cancer
431	HTENR63	Cancer
432	HTGGM44	Immune/Hematopoietic, Musculoskeletal
433	HTHBZ06	Cancer
434	HTLAP64	Cancer
435	HTLBT80	Cancer
436	HTLDA84	Reproductive
437	HTLDN29	Cancer
438	HTLDU78	Reproductive
439	HTLEC82	Cancer
440	HTLEM16	Cancer
441	HTLEV48	Reproductive
442	HTLFA13	Musculoskeletal, Reproductive
443	HTLFI73	Cancer
444	HTLGI89	Cancer
445	HTLIF11	Cancer
446	HTLIF12	Excretory, Reproductive
447	HTLIF12	Excretory, Reproductive

448	HTLIF12	Excretory, Reproductive
449	HTLIF12	Excretory, Reproductive
450	HTLIF12	Excretory, Reproductive
451	HTLIF12	Excretory, Reproductive
452	HTNAM63	Endocrine
453	HTNBK13	Cancer
454	HTOAI50	Immune/Hematopoietic
455	HTOAM11	Immune/Hematopoietic, Neural/Sensory
456	HTODH57	Immune/Hematopoietic
457	HTODH83	Immune/Hematopoietic
458	HTOEV16	Cancer
459	HTOGR38	Immune/Hematopoietic
460	HTOHO21	Immune/Hematopoietic
461	HTOHQ05	Immune/Hematopoietic
462	HTOJL95	Cancer
463	HTOJL95	Cancer
464	HTPDU17	Cancer
465	HTSFJ32	Immune/Hematopoietic
466	HTTCB60	Cancer
467	HTTEE41	Cancer
468	HTTEZ02	Cancer
469	HTWEH94	Immune/Hematopoietic
470	HTXBD09	Cancer
471	HTXDB22	Cancer
472	HTXDC38	Cancer
473	HTXDC77	Cancer
474	HTXDD61	Cancer
475	HTXDG92	Cancer
476	HTXET11	Immune/Hematopoietic
477	HTXFA72	Immune/Hematopoietic
478	HTXJY08	Cancer
479	HTXKF95	Cancer
480	HTXMX07	Cancer
481	HUFCL31	Digestive, Immune/Hematopoietic
482	HUKBT67	Cancer
483	HUKDF20	Cardiovascular, Reproductive
484	HUKDY82	Cancer
485	HUSCJ14	Cancer
486	HUSGL67	Cancer
487	HUSGU40	Cancer
488	HUSIR18	Cancer
489	HUVDJ48	Digestive, Reproductive
490	HWAAI12	Cancer
491	HWBBQ70	Immune/Hematopoietic, Neural/Sensory
492	HWBCN36	Immune/Hematopoietic
493	HWBDJ08	Cancer
494	HWBFX16	Immune/Hematopoietic
495	HWDAC26	Connective/Epithelial,

		Immune/Hematopoietic, Neural/Sensory
496	HWDAG96	Cancer
497	HWDJ01	Connective/Epithelial
498	HWHPB78	Cancer
499	HYABC84	Cancer
500	HYABC84	Cancer

[120] Table 1E provides information related to biological activities and preferred indications for polynucleotides and polypeptides of the invention (including antibodies, agonists, and/or antagonists thereof). Table 1E also provides information related to assays which may be used to test polynucleotides and polypeptides of the invention (including antibodies, agonists, and/or antagonists thereof) for the corresponding biological activities. The first column ("Gene No.") provides the gene number in the application for each clone identifier. The second column ("cDNA Clone ID No:Z") provides the unique clone identifier for each clone as previously described and indicated in Tables 1A, 1B, 1C, and 1D. The third column ("AA SEQ ID NO:Y") indicates the Sequence Listing SEQ ID Number for polypeptide sequences encoded by the corresponding cDNA clones (also as indicated in Tables 1A, 1B, and 2). The fourth column ("Biological Activity") indicates a biological activity corresponding to the indicated polypeptides (or polynucleotides encoding said polypeptides). The fifth column ("Exemplary Activity Assay") further describes the corresponding biological activity and also provides information pertaining to the various types of assays which may be performed to test, demonstrate, or quantify the corresponding biological activity. The sixth column ("Preferred Indications") describes particular embodiments of the invention as well as indications (e.g. pathologies, diseases, disorders, abnormalities, etc.) for which polynucleotides and polypeptides of the invention (including antibodies, agonists, and/or antagonists thereof) may be used in detecting, diagnosing, preventing, and/or treating.

[121] Table 1E describes the use of, inter alia, FMAT technology for testing or demonstrating various biological activities. Fluorometric microvolume assay technology (FMAT) is a fluorescence-based system which provides a means to perform nonradioactive cell- and bead-based assays to detect activation of cell signal transduction pathways. This technology was designed specifically for ligand binding and immunological assays. Using this technology, fluorescent cells or beads at the bottom of the well are detected as localized areas of concentrated fluorescence using a data processing system. Unbound fluorophore comprising the background signal is ignored,

allowing for a wide variety of homogeneous assays. FMAT technology may be used for peptide ligand binding assays, immunofluorescence, apoptosis, cytotoxicity, and bead-based immunocapture assays. See, Miraglia S et. al., "Homogeneous cell and bead based assays for highthroughput screening using flourometric microvolume assay technology," *Journal of Biomolecular Screening*; 4:193-204 (1999). In particular, FMAT technology may be used to test, confirm, and/or identify the ability of polypeptides (including polypeptide fragments and variants) to activate signal transduction pathways. For example, FMAT technology may be used to test, confirm, and/or identify the ability of polypeptides to upregulate production of immunomodulatory proteins (such as, for example, interleukins, GM-CSF, Rantes, and Tumor Necrosis factors, as well as other cellular regulators (e.g. insulin)).

[122] Table 1E also describes the use of kinase assays for testing, demonstrating, or quantifying biological activity. In this regard, the phosphorylation and de-phosphorylation of specific amino acid residues (e.g. Tyrosine, Serine, Threonine) on cell-signal transduction proteins provides a fast, reversible means for activation and de-activation of cellular signal transduction pathways. Moreover, cell signal transduction via phosphorylation/de-phosphorylation is crucial to the regulation of a wide variety of cellular processes (e.g. proliferation, differentiation, migration, apoptosis, etc.). Accordingly, kinase assays provide a powerful tool useful for testing, confirming, and/or identifying polypeptides (including polypeptide fragments and variants) that mediate cell signal transduction events via protein phosphorylation. See e.g., Forrer, P., Tamaskovic R., and Jaussi, R. "Enzyme-Linked Immunosorbent Assay for Measurement of JNK, ERK, and p38 Kinase Activities" *Biol. Chem.* 379(8-9): 1101-1110 (1998).

TABLE 1E

Gene No.	cDNA Clone ID	AA SEQ ID NO: Y	Biological Activity	Exemplary Activity Assay	Preferred Indications
1	H6BSF56	515	Activation of transcription through serum response element in immune cells (such as T-cells).	Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.	A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred hyperplastic conditions include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic

2	H6EDM64	516	Insulin Secretion	<p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Shimizu, H., et al., <i>Endocr J</i>, 47(3):261-9 (2000); Salapatek, A.M., et al., <i>Mol Endocrinol</i>, 13(8):1305-17 (1999); Filipsson, K., et al., <i>Ann N Y Acad Sci</i>, 865:441-4 (1998); Olson, L.K., et al., <i>J Biol Chem</i>, 271(28):16544-52 (1996); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents</p>	<p>anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neuropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated</p>
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3	H6EEC72	517	Activation of transcription through serum response element in immune cells (such as natural killer cells).	<p>of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777 Refs: Lord and Ashcroft. Biochem. J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4329-4343, 1981.</p>	<p>with insulin resistance.</p>
			<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases</p>	

				<p>and Malm. Methods in Enzymol 216:362-368 (1992); Henfhorri et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK- YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>(e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
4	HACAB68	518	<p>Activation of transcription through cAMP response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the cAMP response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to increase cAMP and regulate CREB transcription factors, and modulate expression of genes involved in a wide variety of cell functions. Exemplary assays for transcription through the cAMP response element that may be used or routinely modified to test cAMP-response element activity of polypeptides of the invention (including antibodies and</p>	<p>Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred</p>

4	HACAB68	518	Activation of transcription through serum response element in immune cells (such as T-cells).	<p>agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Genes 15(2):105-117 (1997); and Belkowski et al., J Immunol 161(2):659-665 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>	<p>indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkin's lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
			<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below</p>	

4	HACAB68	518	Activation of Endothelial Cell p38 or JNK Signaling Pathway.	<p>85:6342-6346 (1988); and Black et al., <i>Virus Genes</i> 12(2): 105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) endothelial cell activation.</p>
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			<p>al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Gupta et al., <i>Exp Cell Res</i> 247(2): 495-504 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary endothelial cells that may be used according to these assays include human umbilical vein endothelial cells (HUVEC), which are endothelial cells which line venous blood vessels, and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) the activation of and/or inactivating endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangiopericytoma, lymphangioma,</p>
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					<p>lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, stenosis; venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment/prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease</p>
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4	HACAB68	518	<p>Activation of Skeletal Muscle Cell P13 Kinase Signalling Pathway</p>	<p>Kinase assay. Kinase assays, for example an GSK-3 kinase assay, for P13 Kinase signal transduction that regulate glucose metabolism and cell survival are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit glucose metabolism and cell survival. Exemplary assays for P13 kinase activity that may be used or routinely modified to test P13 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Nikoulina et al., <i>Diabetes</i> 49(2):263-271 (2000); and Schreyer et al., <i>Diabetes</i> 48(8):1662-1666 (1999), the contents of each of which are herein incorporated by reference in its entirety. Rat myoblast cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat myoblast cells that may be used according to these assays include L6 cells. L6 is an adherent rat myoblast cell line, isolated from primary cultures of rat thigh muscle, that fuses to form multinucleated myotubes and striated fibers after culture in differentiation media.</p>	<p>and Crohn's disease), and pain management.</p> <p>A highly preferred embodiment of the invention includes a method for increasing muscle cell survival. An alternative highly preferred embodiment of the invention includes a method for decreasing muscle cell survival.</p> <p>A preferred embodiment of the invention includes a method for stimulating muscle cell proliferation. In a specific embodiment, skeletal muscle cell proliferation is stimulated. An alternative highly preferred embodiment of the invention includes a method for inhibiting muscle cell proliferation. In a specific embodiment, skeletal muscle cell proliferation is inhibited. A preferred embodiment of the invention includes a method for stimulating muscle cell differentiation. In a specific embodiment, skeletal muscle cell differentiation is stimulated. An alternative highly preferred embodiment of the invention includes a method for inhibiting muscle cell differentiation. In a specific embodiment, skeletal muscle cell differentiation is inhibited. Highly preferred indications include disorders of the musculoskeletal system. Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), endocrine disorders (e.g., as described below under "Endocrine Disorders"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to</p>
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5	HACBI56	519	Regulation of viability and proliferation of	Assays for the regulation of viability and proliferation of cells in vitro are well-	<p>diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infections (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal system including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include: myopathy, atrophy, congestive heart failure, cachexia, myxomas, thromas, congenital cardiovascular abnormalities, heart disease, cardiac arrest, heart valve disease, and vascular disease. Highly preferred indications include neoplasms and cancer, such as, rhabdomyoma, rhabdosarcoma, stomach, esophageal, prostate, and urinary cancer. Preferred indications also include breast, lung, colon, pancreatic, brain, and liver cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication</p>
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		pancreatic beta cells.	<p>known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate viability and proliferation of pancreatic beta cells. For example, the Cell Titer-Glo luminescent cell viability assay measures the number of viable cells in culture based on quantitation of the ATP present which signals the presence of metabolically active cells. Exemplary assays that may be used or routinely modified to test regulation of viability and proliferation of pancreatic beta cells by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Friedrichsen BN, et al., <i>Mol Endocrinol</i>, 15(1):136-48 (2001); Huotari MA, et al., <i>Endocrinology</i>, 139(4):1494-9 (1998); Hugl SR, et al., <i>J Biol Chem</i> 1998 Jul 10;273(28):1771-9 (1998), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al.</p>	<p>associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, neuropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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6	HACBS22	520	Production of ICAM-1	<p>Assays for measuring expression of ICAM-1 are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate ICAM-1 expression. Exemplary assays that may be used or routinely modified to measure ICAM-1 expression include assays disclosed in: Rolfe BE, et al., <i>Atherosclerosis</i>, 149(1):99-110 (2000); Panietieri RA Jr, et al., <i>J Immunol</i>, 154(5):2358-2365 (1995); and, Grunstein MM, et al., <i>Am J Physiol Lung Cell Mol Physiol</i>, 278(6):L1154-L1163 (2000), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include Aortic Smooth Muscle Cells (AOSMC); such as bovine AOSMC.</p>	<p>Assays for the activation of transcription through the Signal Transducers and Activators of Transcription (STAT6) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT6 transcription factors and modulate the expression of multiple genes. Exemplary assays for transcription through the STAT6 response element that may be</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Vascular Disease, Atherosclerosis, Restenosis, Stroke, and Asthma.</p>	<p>A highly preferred indication is allergy. Another highly preferred indication is asthma. Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity"; "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described</p>
7	HADDE71	521	Activation of transcription through STAT6 response element in immune cells (such as natural killer cells).				

8	HADDJ13	522	<p>Activation of transcription through STAT6 response element in immune cells (such as natural killer cells).</p>	<p>used or routinely modified to test STAT6 response element activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Georas et al., Blood 92(12):4529-4538 (1998); Moffatt et al., Transplantation 69(7):1521-1523 (2000); Curriel et al., Eur J Immunol 27(8):1982-1987 (1997); and Masuda et al., J Biol Chem 275(38):29331-29337 (2000), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat natural killer cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>below under "Hyperproliferative Disorders"). Preferred indications include neoplasms, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. Additional preferred indications include infection (e.g., an infectious disease as described below under "Infectious Disease").</p>	<p>Another highly preferred indication is allergy. Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms, such as, for example,</p>
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				<p>polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Georas et al., <i>Blood</i> 92(12):4529-4538 (1998); Moffatt et al., <i>Transplantation</i> 69(7):1521-1523 (2000); Curjel et al., <i>Eur J Immunol</i> 27(8):1982-1987 (1997); and Masuda et al., <i>J Biol Chem</i> 275(38):29331-29337 (2000), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat natural killer cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. Additional preferred indications include infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
8	HADDJ13	522	<p>Activation of transcription through GAS response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or</p>	<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and</p>

			antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henhorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Matikainen et al., Blood 93(6):1980-1991 (1999); and Hentinen et al., J Immunol 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the SUPT cell line, that may be used according to these assays are publicly available (e.g., through the ATCC).	suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.
8	HADDJ13	522	Activation of transcription through NFAT response element in immune cells (such as natural killer cells).	Assays for the activation of transcription through the Nuclear Factor of Activated T cells (NFAT) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFAT transcription factors and modulate expression of genes involved in immunomodulatory functions. Exemplary assays for transcription through the NFAT response element that may be used or routinely modified to test NFAT-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include neoplasms and cancer, such as, for example,

		include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malin, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Aramburu et al., J Exp Med 182(3):801-810 (1995); De Boer et al., Int J Biochem Cell Biol 31(10):1221-1236 (1999); Fraser et al., Eur J Immunol 29(3):838-844 (1999); and Yessen et al., J Biol Chem 268(19):14285-14293 (1993), the contents of each of which are herein incorporated by reference in its entirety. NK cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human NK cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.	leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.
9	HADMB15	523	<p>Assays for the regulation of transcription through the DMEF1 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to activate the DMEF1 response element in a reporter construct (such as that containing the GLUT4 promoter) and to regulate insulin production. The DMEF1 response element is present in the GLUT4 promoter and binds to ME2P transcription factor and another transcription factor that is required for insulin regulation of Glut4 expression in skeletal muscle. GLUT4 is the primary insulin-responsive glucose transporter in</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment</p>

			<p>fat and muscle tissue. Exemplary assays that may be used or routinely modified to test for DMEF1 response element activity (in adipocytes and pre-adipocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Thai, M.V., et al., <i>J Biol Chem</i>, 273(23):14285-92 (1998); Mora, S., et al., <i>J Biol Chem</i>, 275(21):16323-8 (2000); Liu, M.L., et al., <i>J Biol Chem</i>, 269(45):28514-21 (1994); "Identification of a 30-base pair regulatory element and novel DNA binding protein that regulates the human GLUT4 promoter in transgenic mice", <i>J Biol Chem</i>, 2000 Aug 4:275(31):23666-73; Berger, et al., <i>Gene</i> 66:1-10 (1988); and, Cullen, B., et al., <i>Methods in Enzymol.</i> 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety. Adipocytes and pre-adipocytes that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include the mouse 3T3-L1 cell line which is an adherent mouse preadipocyte cell line. Mouse 3T3-L1 cells are a continuous substrain of 3T3 fibroblasts developed through clonal isolation. These cells undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation culture conditions.</p>	<p>(e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>	
9	HADMB15	523	<p>Regulation of apoptosis of immune cells (such as mast cells).</p>	<p>Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention,</p>

9	HADM15	523	Activation of Natural Killer Cell ERK	<p>assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate caspase protease-mediated apoptosis in immune cells (such as, for example, in mast cells). Mast cells are found in connective and mucosal tissues throughout the body, and their activation via immunoglobulin E-antigen, promoted by T helper cell type 2 cytokines, is an important component of allergic disease. Dysregulation of mast cell apoptosis may play a role in allergic disease and mast cell tumor survival. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity induced by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Masuda A, et al., <i>J Biol Chem</i>, 276(28):26107-26113 (2001); Yeaman CF 2nd, et al., <i>J Exp Med</i>, 192(8): 1093-1103 (2000); Lee et al., <i>FEBS Lett</i> 485(2-3): 122-126 (2000); Nor et al., <i>J Vasc Res</i> 37(3): 209-218 (2000); and Karsan and Harlan, <i>J Atheroscler Thromb</i> 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Immune cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary immune cells that may be used according to these assays include mast cells such as the HMC human mast cell line.</p>	and/or treatment of asthma, allergy, hypersensitivity and inflammation.
				A highly preferred embodiment of the invention includes a method for stimulating natural killer cell	

			<p>transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Natural killer cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p> <p>Exemplary natural killer cells that may be used according to these assays include the human natural killer cell lines (for example, NK-YT cells which have cytolytic and cytotoxic activity) or primary NK cells.</p>	<p>proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting natural killer cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating natural killer cell differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting natural killer cell differentiation. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity") and infections (e.g., as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below) and highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include cancers such as, kidney, melanoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, urinary cancer, lymphoma and leukemias. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Other highly preferred indications include, pancytopenia, leukopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), arthritis, asthma, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, immune reactions to transplanted organs and tissues, endocarditis, meningitis, Lyme Disease, and allergies.</p>
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10	HAGBQ12	524	<p>Production of IFNγ using a T cells</p>	<p>IFNγ plays a central role in the immune system and is considered to be a proinflammatory cytokine. IFNγ promotes TH1 and inhibits TH2 differentiation; promotes IgG2a and inhibits IgE secretion; induces macrophage activation; and increases MHC expression. Assays for immunomodulatory proteins produced by T cells and NK cells that regulate a variety of inflammatory activities and inhibit TH2 helper cell functions are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, regulate inflammatory activities, modulate TH2 helper cell function, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as Interferon gamma (IFNγ), and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., J Clin Lab Anal 8(5):225-233 (1995); Billiau et al., Ann NY Acad Sci 856:22-32 (1998); Boehm et al., Annu Rev Immunol</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease"). Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiency (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional preferred indications include idiopathic pulmonary fibrosis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, acute lymphocytic thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia.</p>
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			<p>15/749-795 (1997), and Rheumatology (Oxford) 38(3):214-20 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p> <p>HLA-DR F/MAT: MHC class II is essential for correct presentation of antigen to CD4+ T cells. Deregulation of MHC class II has been associated with autoimmune diseases (e.g., diabetes, rheumatoid arthritis, systemic lupus erythematosus, and multiple sclerosis). Assays for immunomodulatory proteins expressed on MHC class II expressing T cells and antigen presenting cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, and/or mediate humoral or cell-mediated immunity.</p> <p>Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of MHC class II products, such as HLA-DR antigens, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of</p>	<p>hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
11	HAGDW20	525	<p>Upregulation of HLA-DR and activation of T cells</p>	<p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and alternatively, suppressing a T cell-mediated immune response. A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypersmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as</p>

			<p>polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Lamour et al., Clin Exp Immunol 89(2):217-222 (1992); Hurme and Sihvola, Immunol Lett 20(3):217-222 (1989); Gansbacher and Zier, Cell Immunol 117(1):22-34 (1988); and Itoh et al., J Histochem Cytochem 40(11):1675-1683, the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. An additional preferred indication is infection (e.g., AIDS, and/or as described below under "Infectious Disease"). Preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"), and neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancer, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, endocarditis,</p>
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12	HAGEG10	526	<p>Activation of transcription through GAS response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Mankinen et al., <i>Blood</i> 93(6):1980-1991 (1999); and Henthorn et al., <i>J Immunol</i> 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary mouse T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the CTLL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>	<p>meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response.</p> <p>Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and</p>
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13	HAGEQ79	527	<p>Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Mankinen et al., <i>Blood</i> 93(6):1980-1991 (1999); and Hentinen et al., <i>J Immunol</i> 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary mouse T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the CTLL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>	<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
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13	HAGEQ79	527	<p>Upregulation of HLA-DR and activation of T cells</p>	<p>HLA-DR FMAAT. MHC class II is essential for correct presentation of antigen to CD4+ T cells. Deregulation of MHC class II has been associated with autoimmune diseases (e.g., diabetes, rheumatoid arthritis, systemic lupus erythematosus, and multiple sclerosis). Assays for immunomodulatory proteins expressed on MHC class II expressing T cells and antigen presenting cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of MHC class II products, such as HLA-DR antigens, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Lamour et al., Clin Exp Immunol 89(2):217-222 (1992); Hurne and Shihvola, Immunol Lett 20(3):217-222 (1989); Gansbacher and Zier, Cell Immunol 117(1):22-34 (1988); and Itoh et al., J Histochem Cytochem 40(11):1675-1683, the contents of each of which are herein</p>	<p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and alternatively, suppressing a T cell-mediated immune response. A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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14	HAGFS57	528	Proliferation, differentiation, and/or cytokine production in immune cells (such as T-cells).	<p>Incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. An additional preferred indication is infection (e.g., AIDS, and/or as described below under "Infectious Disease"). Preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"), and neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancer, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia; pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy.</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of inflammation, infection, allergy, asthma, autoimmunity, and cancer.</p>
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14	HAGFS57	528	Production of IL-6	<p>or routinely modified to test polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Kincon M., Curr Opin Immunol. 13(3):339-345 (2001); Wang LH, et al., J Immunol, 162(7):3897-3904 (1999); Sakamoto H, et al., J Biol Chem, 275(46):35857-35862 (2000), the contents of each of which are herein incorporated by reference in its entirety. Exemplary immune cells (for example, T-cells) that may be used according to these assays include the mouse CTL cell line.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described</p>
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15	HAGHN57	529	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhaselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated</p>
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15	HAGHS7	529	<p>Activation of transcription through STAT6 response element in immune cells (such as natural killer cells).</p>	<p>modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells, such as the MOLT4, that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>Another highly preferred indication is allergy. Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below).</p>
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15	HAGHN57	529	Activation of transcription through NFAT response element in immune cells (such as natural killer cells).	<p>Exemplary assays for transcription through the STAT6 response element that may be used or routinely modified to test STAT6 response element activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Georgas et al., Blood 92(12):4529-4538 (1998); Moffatt et al., Transplantation 69(7):1521-1523 (2000); Currel et al., Eur J Immunol 27(8):1982-1987 (1997); and Masuda et al., J Biol Chem 275(38):29331-29337 (2000), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat natural killer cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. Additional preferred indications include infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
				<p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. An additional highly preferred indication is infection (e.g., an infectious</p>	

16	HAHEA15	530	Upregulation of CD69 and activation of T cells	<p>response element that may be used or routinely modified to test NFAT-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Aramburu et al., J Exp Med 182(3):801-810 (1995); De Boer et al., Int J Biochem Cell Biol 31(10):1221-1236 (1999); Fraser et al., Eur J Immunol 29(3):838-844 (1999); and Yessen et al., J Biol Chem 268(19):14285-14293 (1993), the contents of each of which are herein incorporated by reference in its entirety. NK cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human NK cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>disease as described below under "Infectious Disease"), leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
				<p>CD69 FMAT: CD69 is an activation marker that is expressed on activated T cells, B cells, and NK cells. CD69 is not expressed on resting T cells, B cells, or NK cells. CD69 has been found to be associated with inflammation. Assays for immunomodulatory proteins expressed in T cells, B cells, and leukocytes are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of</p>	<p>A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for activating B cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating B cells. A highly preferred embodiment of the invention includes a method for activating NK cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting activation of</p>

17	HAIJA47	531	Production of TNF	<p>the invention) to modulate the activation of T cells, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD69, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Ferenczi et al., <i>J Autoimmun</i> 14(1):63-78 (2000); Werfel et al., <i>Allergy</i> 52(4):465-469 (1997); Taylor-Fishwick and Siegel, <i>Eur J Immunol</i> 25(12):3215-3221 (1995); and Aletra et al., <i>Ann Rheum Dis</i> 52(6):457-460 (1993), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>and/or inactivation NK cells. Highly preferred indications include inflammation and inflammatory disorders (e.g., as described below under "Immune Activity"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response and alternatively suppressing a T cell-mediated immune response, and boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. An additional highly preferred indication includes infection (e.g., as described below under "Infectious Disease"). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, asthma, and allergies. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. A highly preferred embodiment of the invention</p>
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	alpha by dendritic cells	<p>immunomodulatory proteins produced by activated macrophages, T cells, fibroblasts, smooth muscle, and other cell types that exert a wide variety of inflammatory and cytotoxic effects on a variety of cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate inflammation and cytotoxicity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines such as tumor necrosis factor alpha (TNFα), and the induction or inhibition of an inflammatory or cytotoxic response. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Verhasselt et al., <i>Eur J Immunol</i> 28(11):3886-3890 (1998); Dahlen et al., <i>J Immunol</i> 160(7):3585-3593 (1998); Verhasselt et al., <i>J Immunol</i> 158:2919-2925 (1997); and Nardelli et al., <i>J Leukoc Biol</i> 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein</p>	<p>includes a method for inhibiting (e.g., decreasing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An</p>
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17	HAIJAA47	531	<p>Activation of transcription through the EGR (Early Growth Response) element in immune cells (such as B-cells).</p>	<p>or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>Assays for the activation of transcription through the EGR response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate EGR transcription factors and modulate expression of immunomodulatory genes. Exemplary assays for transcription through the EGR response element that may be used or routinely modified to test EGR response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Richards JD, et al., <i>J Immunol.</i> 166(6):3855-3864 (2001); Dinkel, A, et al., <i>J Exp Med.</i> 188(12):2215-2224 (1998); and Newton, JS, et al., <i>Eur J Immunol</i> 1996 Apr;26(4):811-816 (1996), the contents of each of which are herein incorporated by reference in its entirety. Immune cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary immune cells that may be used according to these assays include the Raji B-cell line.</p>	<p>additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
18	HAIJAY92	532	<p>Activation of transcription through GAS response element</p>	<p>Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Cancer, Autoimmunity, Allergy and Asthma.</p>
				<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention,</p>	

			known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Gustafson KS, et al., J Biol Chem, 271(33):20035-20046 (1996); Eilers A, et al., Immunobiology, 193(2-4):328-333 (1995); Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Matikainen et al., Blood 93(6):1980-1991 (1999); and Hentinen et al., J Immunol 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary immune cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary immune cells that may be used according to these assays include the U937 cell line, which is a monocytic cell line.	and/or treatment of Inflammation, Infection, Cancer, Hypersensitivity, and Atherosclerosis.
19	HABV67	533	Stimulation of insulin secretion from pancreatic beta cells.	A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure,

			<p>antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMA1 using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., <i>Am J Physiol</i>, 277(4 Pt 2):R959-66 (1999); Li, M., et al., <i>Endocrinology</i>, 138(9):3735-40 (1997); Kim, K. H., et al., <i>FEBS Lett</i>, 377(2):237-9 (1995); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. <i>Endocrinology</i> 1992 130:167.</p>	<p>neuropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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21	HAOAG15	535	Activation of Adipocyte ERK Signaling Pathway	<p>kinase, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein.</p> <p>Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Highly preferred indications include neoplasms and cancer, such as, lipoma, liposarcoma, lymphoma, leukemia and breast, colon, and kidney cancer. Additional highly preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the</p>
				<p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to</p>

			<p>assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brustel Y, <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipocyte conversion under appropriate differentiation conditions known in the art.</p>	<p>invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"). Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the</p>
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21	HAOAG15	535	Activation of Natural Killer Cell ERK Signaling Pathway:	<p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to</p>	<p>"Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating natural killer cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting natural killer cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating natural killer cell differentiation. An alternative highly preferred embodiment of the invention</p>
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				<p>promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Natural killer cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary natural killer cells that may be used according to these assays include the human natural killer cell lines (for example, NK-YT cells which have cytolytic and cytotoxic activity) or primary NK cells.</p>	<p>includes a method for inhibiting natural killer cell differentiation. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity") and infections (e.g., as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include cancers such as, kidney, melanoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, urinary cancer, lymphoma and leukemias. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Other highly preferred indications include, pancytopenia, leukopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), arthritis, asthma, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, immune reactions to transplanted organs and tissues, endocarditis, meningitis, Lyme Disease, and allergies.</p>
22	HAQA192	536	<p>Regulation of proliferation and/or differentiation in immune cells (such as mast cells).</p>	<p>Kinase assays, for example an Elk-1 Kinase assay for ERK signal transduction that regulates cell proliferation or differentiation, are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of asthma, allergy, hypersensitivity and inflammation.</p>

23	HAQCE11	537	Production of IL-5	<p>invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Ali H, et al., <i>J Immunol</i>, 165(12):7215-7223 (2000); Tam SY, et al., <i>Blood</i>, 90(5):1807-1820 (1997); Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Berra et al., <i>Biochem Pharmacol</i> 60(8):1171-1178 (2000); Gupta et al., <i>Exp Cell Res</i> 247(2):495-504 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Exemplary immune cells that may be used according to these assays include human mast cells such as the HMC-1 cell line.</p>	<p>A highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-5 production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-5 production. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) immunoglobulin production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) immunoglobulin production. A highly preferred indication includes allergy. A highly preferred indication includes asthma.</p>
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24	HATB194	538	Production of	<p>immune cell function, modulate B cell Ig production, modulate immune cell polarization, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-5, and the stimulation of eosinophil function and B cell Ig production. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Ohshima et al., Blood 92(9):3338-3345 (1998); Jung et al., Eur J Immunol 25(8):2413-2416 (1995); Mori et al., J Allergy Clin Immunol 106(1 Pt 2):558-564 (2000); and Koning et al., Cytokine 9(6):427-436 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>preferred indication includes rhinitis. An additional highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"), and inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease.</p>
				A highly preferred embodiment of the invention	

			<p>immunomodulatory proteins produced by activated dendritic cells that upregulate monocyte/macrophage and T cell chemotaxis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate chemotaxis, and modulate T cell differentiation. Exemplary assays that test for immunomodulatory proteins evaluate the production of chemokines, such as macrophage inflammatory protein 1 alpha (MIP-1α), and the activation of monocytes/macrophages and T cells. Such assays that may be used or routinely modified to test immunomodulatory and chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Eremin, <i>J R Coll Surg Edinb</i> 45(1):9-19 (2001); Drakes et al., <i>Transp Immunol</i> 8(1):17-29 (2000); Verhasselt et al., <i>J Immunol</i> 158:2919-2925 (1997); and Nardelli et al., <i>J Leukoc Biol</i> 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen</p>	<p>MIP1 alpha</p>	<p>includes a method for stimulating MIP1α production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MIP1α production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
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24	HATB194	538	Production of TNF alpha by dendritic cells	<p>presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>TNFα FMAT: Assays for immunomodulatory proteins produced by activated macrophages, T cells, fibroblasts, smooth muscle, and other cell types that exert a wide variety of inflammatory and cytotoxic effects on a variety of cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate inflammation and cytotoxicity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines such as tumor necrosis factor alpha (TNFα), and the induction or inhibition of an inflammatory or cytotoxic response. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Verhasselt et al., Eur J Immunol 28(11):3886-3890 (1998); Dahlen et al., J Immunol 160(7):3585-3593 (1998); Verhasselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828</p>	<p>A highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease,</p>
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25	HATCB45	539	Upregulation of CD152 and activation of T cells	<p>(1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>CD152 PMAT. CD152 (a.k.a. CTLA-4) expression is restricted to activated T cells. CD152 is a negative regulator of T cell proliferation. Reduced CD152 expression has been linked to hyperproliferative and autoimmune diseases. Overexpression of CD152 may lead to impaired immunoresponses. Assays for immunomodulatory proteins important in the maintenance of T cell homeostasis and expressed almost exclusively on CD4+ and CD8+ T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, maintain T cell homeostasis, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD152, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention</p>	<p>neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
				<p>A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for</p>	

				(including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); McCoy et al., Immunol Cell Biol 77(1):1-10 (1999); Oostervegal et al., Curr Opin Immunol 11(3):294-300 (1999); and Saito T, Curr Opin Immunol 10(3):313-321 (1998), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.			example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy. An additional preferred indication is infection (e.g., as described below under "Infectious Disease").
26	HATCD80	540	Insulin Secretion	Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by PMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely		A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the	

			modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Shimizu, H., et al., <i>Endocr J</i> , 47(3):261-9 (2000); Salapatek, A.M., et al., <i>Mol Endocrinol</i> , 13(8):1305-17 (1999); Filipsson, K., et al., <i>Ann N Y Acad Sci</i> , 865:441-4 (1998); Olson, L.K., et al., <i>J Biol Chem</i> , 271(28):16544-52 (1996); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i> , 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777 Refs: Lord and Ashcroft. <i>Biochem. J</i> 219: 547-551; Santerre et al. <i>Proc. Natl. Acad. Sci. USA</i> 78: 4339-4343, 1981. Kinase assay. Kinase assays, for example an GSK-3 kinase assay, for P13 kinase signal transduction that regulate glucose metabolism and cell survival are well-known in the art and may be used or	<p>"Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
27	HATC103	541	Activation of Skeletal Muscle Cell P13 Kinase Signalling Pathway	<p>A highly preferred embodiment of the invention includes a method for increasing muscle cell survival. An alternative highly preferred embodiment of the invention includes a method for decreasing muscle cell survival. A preferred embodiment of the invention includes a</p>

				<p>method for stimulating muscle cell proliferation. In a specific embodiment, skeletal muscle cell proliferation is stimulated. An alternative highly preferred embodiment of the invention includes a method for inhibiting muscle cell proliferation. In a specific embodiment, skeletal muscle cell proliferation is inhibited. A preferred embodiment of the invention includes a method for stimulating muscle cell differentiation. In a specific embodiment, skeletal muscle cell differentiation is stimulated. An alternative highly preferred embodiment of the invention includes a method for inhibiting muscle cell differentiation. In a specific embodiment, skeletal muscle cell differentiation is inhibited. Highly preferred indications include disorders of the musculoskeletal system. Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), endocrine disorders (e.g., as described below under "Endocrine Disorders"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), blood disorders (e.g., as described below under "Immune Activity"), "Cardiovascular Disorders", and/or "Blood-Related Disorders", immune disorders (e.g., as described below under "Immune Activity"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g. due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension,</p>
			<p> routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit glucose metabolism and cell survival. Exemplary assays for PI3 kinase activity that may be used or routinely modified to test PI3 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Nikolova et al., <i>Diabetes</i> 49(2):263-271 (2000); and Schreyer et al., <i>Diabetes</i> 48(8):1662-1666 (1999), the contents of each of which are herein incorporated by reference in its entirety. Rat myoblast cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat myoblast cells that may be used according to these assays include L6 cells. L6 is an adherent rat myoblast cell line, isolated from primary cultures of rat thigh muscle, that fuses to form multinucleated myotubes and striated fibers after culture in differentiation media.</p>	

27	HATC03	541	Upregulation of CD69 and activation of T cells	<p>CD69 FMAT: CD69 is an activation marker that is expressed on activated T cells, B cells, and NK cells. CD69 is not expressed on resting T cells, B cells, or NK cells. CD69 has been found to be associated with inflammation. Assays for immunomodulatory proteins expressed in T cells, B cells, and leukocytes are well</p>	<p>stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infections (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal system including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include: myopathy, atrophy, congestive heart failure, cachexia, myxomas, fibromus, congenital cardiovascular abnormalities, heart disease, cardiac arrest, heart valve disease, and vascular disease. Highly preferred indications include neoplasms and cancer, such as, rhabdomyoma, rhabdomyosarcoma, stomach, esophageal, prostate, and urinary cancer. Preferred indications also include breast, lung, colon, pancreatic, brain, and liver cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for activation B cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or</p>
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			<p>known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD69, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Ferenczi et al., <i>J Autoimmun</i> 14(1):63-78 (2001); Werfel et al., <i>Allergy</i> 52(4):465-469 (1997); Taylor-Fishwick and Siegel, <i>Eur J Immunol</i> 25(12):3215-3221 (1995); and Aferra et al., <i>Am Rheum Dis</i> 52(6):457-460 (1993), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to</p>	<p>inactivating B cells. A highly preferred embodiment of the invention includes a method for activating NK cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting activation of and/or inactivation NK cells. Highly preferred indications include inflammation and inflammatory disorders (e.g., as described below under "Immune Activity"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response and alternatively suppressing a T cell-mediated immune response, and boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. An additional highly preferred indication includes infection (e.g., as described below under "Infectious Disease"). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, asthma, and allergies. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer.</p>
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28	HATEH20	542	<p>Activation of transcription through serum response element in immune cells (such as natural killer cells).</p>	<p>immunomodulatory factors.</p> <p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henhorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Benson et al., <i>J Immunol</i> 153(9):3862-3873 (1994); and Black et al., <i>Virus Genes</i> 12(2): 105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK-92 cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to</p>
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29	HBAGD86	543	<p>Regulation of transcription via DMEF1 response element in adipocytes and pre-adipocytes</p>	<p>Assays for the regulation of transcription through the DMEF1 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to activate the DMEF1 response element in a reporter construct (such as that containing the GLUT4 promoter) and to regulate insulin production. The DMEF1 response element is present in the GLUT4 promoter and binds to MEF2 transcription factor and another transcription factor that is required for insulin regulation of GLUT4 expression in skeletal muscle. GLUT4 is the primary insulin-responsive glucose transporter in fat and muscle tissue. Exemplary assays that may be used or routinely modified to test for DMEF1 response element activity (in adipocytes and pre-adipocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Thai, M.V., et al., J Biol Chem, 273(23):14285-92 (1998); Mora, S., et al., J Biol Chem, 275(21):16323-8 (2000); Liu, M.L., et al., J Biol Chem, 269(45):28514-21 (1994); Identification of a 30-base pair regulatory element and novel DNA binding protein that regulates the human</p>	<p>transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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29	HBAGD86	543	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>GLUT4 promoter in transgenic mice". J Biol Chem. 2000 Aug 4;275(31):23666-73; Berger, et al., Gene 66:1-10 (1988); and, Cullen, B., et al., Methods in Enzymol. 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety. Adipocytes and pre-adipocytes that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include the mouse 3T3-L1 cell line which is an adherent mouse preadipocyte cell line. Mouse 3T3-L1 cells are a continuous substrain of 3T3 fibroblasts developed through clonal isolation. These cells undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation culture conditions.</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNFα production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNFα production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p>
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				<p>Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells, such as the MOLT4, that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
29	HBACD86	543	<p>Activation of transcription through STAT6 response element in immune cells (such as natural killer cells).</p>	<p>Assays for the activation of transcription through the Signal Transducers and Activators of Transcription (STAT6) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT6 transcription factors and modulate the expression of multiple genes. Exemplary assays for transcription through the STAT6 response element that may be used or routinely modified to test STAT6 response element activity of the</p>	<p>Another highly preferred indication is allergy. Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms, such as, for example,</p>

29	HBAGD86	543	<p>Activation of transcription through GAS response element in immune cells (such as T-cells).</p>	<p>polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Georgas et al., Blood 92(12):4529-4538 (1998); Moffatt et al., Transplantation 69(7):1521-1523 (2000); Curjel et al., Eur J Immunol 27(8):1982-1987 (1997); and Masuda et al., J Biol Chem 275(38):29331-29337 (2000), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat natural killer cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. Additional preferred indications include infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
			<p>Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or</p>	<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkin's lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and</p>	

			antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Matikainen et al., Blood 93(6):1980-1991 (1999); and Hentinen et al., J Immunol 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the SUPT cell line, that may be used according to these assays are publicly available (e.g., through the ATCC).	suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.	
29	HBAGD86	543	Activation of transcription through NFAT response element in immune cells (such as natural killer cells).	Assays for the activation of transcription through the Nuclear Factor of Activated T cells (NFAT) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFAT transcription factors and modulate expression of genes involved in immunomodulatory functions. Exemplary assays for transcription through the NFAT response element that may be used or routinely modified to test NFAT-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention)	Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. An additional highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancer, such as, for example,

30	HBCJL35	544	Production of IL-6	<p>include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Aramburu et al., J Exp Med 182(3):801-810 (1995); De Boer et al., Int J Biochem Cell Biol 31(10):1221-1236 (1999); Fraser et al., Eur J Immunol 29(3):838-844 (1999); and Yessen et al., J Biol Chem 268(19):14285-14293 (1993), the contents of each of which are herein incorporated by reference in its entirety. NK cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human NK cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
				<p>IL-6 FMA1. IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases. Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a</p>

31	HBDAB91	545	Stimulation of insulin secretion from pancreatic beta cells.	<p>antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhaselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
				<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to</p>	

				<p>is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., <i>Am J Physiol</i>, 277(4 Pt 2):R959-66 (1999); Li, M., et al., <i>Endocrinology</i>, 138(9):3735-40 (1997); Kim, K.H., et al., <i>FEBS Lett</i>, 377(2):237-9 (1995); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. <i>Endocrinology</i>, 1992, 130:167.</p>
32	HBDAB91	546	<p>Stimulation of insulin secretion from pancreatic beta cells.</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy,</p>

			<p>of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., <i>Am J Physiol</i>, 277(4 Pt 2):R959-66 (1999); Li, M., et al., <i>Endocrinology</i>, 138(9):3735-40 (1997); Kim, K.H., et al., <i>FEBS Lett</i>, 377(2):237-9 (1995); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al.</p>	<p>diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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33	HB0BC29	547	<p>Protection from Endothelial Cell Apoptosis.</p>	<p>Endocrinology. 1992. 130:167.</p> <p>Caspase Apoptosis Rescue. Assays for caspase apoptosis rescue are well known in the art and may be used or routinely modified to assess the ability of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to inhibit caspase protease-mediated apoptosis. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis rescue of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Romeo et al., Cardiovasc Res 45(3): 788-794 (2000); Messmer et al., Br J Pharmacol 127(7): 1633-1640 (1999); and J Atheroscler Thromb 3(2): 75-80 (1996), the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary endothelial cells that may be used according to these assays include bovine aortic endothelial cells (BAEC), which are an example of endothelial cells which line blood vessels and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred</p>
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				<p>indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioblastoma, angiosarcoma, haemangiopericytoma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, stenosis, venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative</p>
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34	HBGNC72	548	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988);</p>	<p>disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment/prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p> <p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and</p>
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			<p>Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the JURKAT cell line, which is a suspension culture of leukemia cells that produce IL-2 when stimulated.</p>	<p>cancers, such as, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
35	HBHAA05	549	<p>Regulation of viability and proliferation of pancreatic beta cells.</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and</p>

			<p>agonists or antagonists of the invention) include assays disclosed in: Friedrichsen BN, et al., <i>Mol Endocrinol</i>, 15(1):136-48 (2001); Huotari MA, et al., <i>Endocrinology</i>, 139(4):1494-9 (1998); Hugl SR, et al., <i>J Biol Chem</i> 1998 Jul 10;273(28):17771-9 (1998), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. <i>Endocrinology</i> 1992 130:167.</p>	Insulin Secretion	550	HBHAA81	36
<p>impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p> <p>A highly preferred indication is diabetes mellitus.</p> <p>An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia,</p>							

36	HBHAA81	550	Production of IFN γ using a T cells	<p>secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Shimizu, H., et al., <i>Endocr J</i>, 47(3):261-9 (2000); Salapatek, A.M., et al., <i>Mol Endocrinol</i>, 13(8):1305-17 (1999); Filipsson, K., et al., <i>Ann N Y Acad Sci</i>, 865:441-4 (1998); Olson, L.K., et al., <i>J Biol Chem</i>, 271(28):16544-52 (1996); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777</p> <p>Refs: Lord and Ashcroft, <i>Biochem J</i> 219: 547-551; Santerre et al. <i>Proc. Natl. Acad. Sci. USA</i> 78: 4339-4343, 1981.</p>	<p>endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
			<p>IFNγgamma FMAT. IFNγ plays a central role in the immune system and is considered to be a proinflammatory cytokine. IFNγ promotes TH1 and inhibits TH2 differentiation; promotes IgG2a and inhibits IgE secretion; induces</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune</p>	

			<p>macrophage activation; and increases MHC expression. Assays for immunomodulatory proteins produced by T cells and NK cells that regulate a variety of inflammatory activities and inhibit TH2 helper cell functions are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, regulate inflammatory activities, modulate TH2 helper cell function, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as Interferon gamma (IFNγ), and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of antibodies and agonists or antagonists of the invention include the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., <i>J Clin Lab Anal</i> 8(5):225-233 (1995); Billiau et al., <i>Ann NY Acad Sci</i> 856:22-32 (1998); Boehn et al., <i>Annu Rev Immunol</i> 15:749-795 (1997), and <i>Rheumatology</i> (Oxford) 38(3):214-20 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed</p>
			<p>Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease"). Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiency (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional preferred indications include idiopathic pulmonary fibrosis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophagus, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>

37	HBIAA59	551	<p>herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p> <p>Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders").</p> <p>Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus.</p>	An
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				<p>that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-life conversion under appropriate differentiation conditions known in the art.</p>	<p>additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer.</p>
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38	HBIAC29	552	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous</p>
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39	HBICW51	553	Production of IFN γ using a T cells	<p>IFNγ plays a central role in the immune system and is considered to be a proinflammatory cytokine. IFNγ promotes TH1 and inhibits TH2 differentiation; promotes IgG2a and inhibits IgE secretion; induces macrophage activation; and increases MHC expression. Assays for immunomodulatory proteins produced by T cells and NK cells that regulate a variety of inflammatory activities and inhibit TH2 helper cell functions are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, regulate inflammatory activities, modulate TH2 helper cell function, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as Interferon gamma (IFNγ), and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of</p>	<p>disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease"). Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiency (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional preferred indications include idiopathic pulmonary fibrosis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia,</p>
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40	HB/AB02	554	<p>the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., J Clin Lab Anal 8(3):225-233 (1995); Billiau et al., Ann NY Acad Sci 856:22-32 (1998); Boehm et al., Annu Rev Immunol 15:749-795 (1997), and Rheumatology (Oxford) 38(3):214-20 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p> <p>Assays for measuring calcium flux are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mobilize calcium. Cells normally have very low concentrations of cytosolic calcium compared to much higher extracellular calcium. Extracellular factors can cause an influx of calcium, leading to activation of calcium responsive signaling pathways and alterations in cell functions. Exemplary assays that may be used or routinely modified to measure calcium flux in chondrocytes include</p>	<p>metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p> <p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Bone and Cartilage Diseases, including but not limited to Arthritis, Cartilage repair, Bone Repair, Osteoporosis, and related tumors including chondrosarcomas, chondroblastomas, and chondromas.</p>
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40	HB/AB02	554	Upregulation of CD152 and activation of T cells	<p>assays disclosed in: Asada S, et al., <i>Inflamm Res</i>, 50(1):19-23 (2001); Schwartz Z, et al., <i>J Bone Miner Res</i>, 6(7):709-718 (1991); Iamotti JP, et al., <i>J Bone Joint Surg Am</i>, 67(1): 113-120 (1985); Sullivan E., et al., <i>Methods Mol Biol</i>, 1999; 114:125-133 (1999), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include bovine chondrocytes.</p> <p>CD152 FMAT. CD152 (a.k.a. CTLA-4) expression is restricted to activated T cells. CD152 is a negative regulator of T cell proliferation. Reduced CD152 expression has been linked to hyperproliferative and autoimmune diseases. Overexpression of CD152 may lead to impaired immunoresponses. Assays for immunomodulatory proteins important in the maintenance of T cell homeostasis and expressed almost exclusively on CD4+ and CD8+ T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, maintain T cell homeostasis, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such</p>	<p>A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma,</p>
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41	HB/AC65	555	<p>Activation of transcription through GAS response element in immune cells (such as T-cells).</p>	<p>as CD152, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); McCoy et al., Immunol Cell Biol 77(1):1-10 (1999); Oosterveeg et al., Curr Opin Immunol 11(3):294-300 (1999); and Saito T, Curr Opin Immunol 10(3):313-321 (1998), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy. An additional preferred indication is infection (e.g., as described below under "Infectious Disease").</p>	<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions,</p>
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42	HB1BM12	556	Production of IL-6	<p>cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henhorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Matikainen et al., Blood 93(6):1980-1991 (1999); and Hentunen et al., J Immunol 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the SUPT cell line, that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly</p>
				<p>IL-6 FMAT. IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases. Assays for immunomodulatory and differentiation factor proteins produced by</p>		

43	HBICR46	557	Regulation of viability	<p>a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhaselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
				<p>A highly preferred indication is diabetes mellitus.</p>	

		<p>proliferation of cells in vitro are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate viability and proliferation of pancreatic beta cells. For example, the Cell Titer-Glo luminescent cell viability assay measures the number of viable cells in culture based on quantitation of the ATP present which signals the presence of metabolically active cells. Exemplary assays that may be used or routinely modified to test regulation of viability and proliferation of pancreatic beta cells by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Friedrichsen BN, et al., <i>Mol Endocrinol</i>, 15(1):136-48 (2001); Huotari MA, et al., <i>Endocrinology</i>, 139(4):1494-9 (1998); Hugl SR, et al., <i>J Biol Chem</i> 1998 Jul 10;273(28):17771-9 (1998), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible</p>	<p>An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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44	HB/DS79	558	Upregulation of CD152 and activation of T cells	<p>insulin secretion. References: Asfari et al. Endocrinology. 1992;130:167.</p> <p>CD152 FMA1. CD152 (a.k.a. CTLA-4) expression is restricted to activated T cells. CD152 is a negative regulator of T cell proliferation. Reduced CD152 expression has been linked to hyperproliferative and autoimmune diseases. Overexpression of CD152 may lead to impaired immunoresponses. Assays for immunomodulatory proteins important in the maintenance of T cell homeostasis and expressed almost exclusively on CD4+ and CD8+ T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, maintain T cell homeostasis, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD152, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); McCoy et al., <i>Immunol Cell Biol</i> 77(1):1-10 (1999); Oosterveg et al., <i>Curr Opin Immunol</i> 11(3):294-300 (1999); and</p>	<p>A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer.</p> <p>Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis,</p>
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Saito T, Curr Opin Immunol 10(3):313-321 (1998), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.	Regulation of viability and proliferation of pancreatic beta cells.	559	HBJDW56	45
<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred</p>				

			<p>Biol Chem 1998 Jul 10;273(28):1771-9 (1998), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. Endocrinology 1992. 130:167.</p>	<p>indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
46	HBIEL16	560	<p>Regulation of viability and proliferation of pancreatic beta cells.</p>	<p>A highly preferred indication is diabetes mellitus.</p> <p>An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious</p>

46	HBJEL16	560	Upregulation of CD69 and activation of T cells	<p>BN, et al., Mol Endocrinol, 15(1):136-48 (2001); Huotari MA, et al., Endocrinology, 139(4):1494-9 (1998); Hugi SR, et al., J Biol Chem 1998 Jul 10;273(28):17771-9 (1998), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. Endocrinology 1992 130:167.</p>	<p>Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
				<p>CD69 FMAT. CD69 is an activation marker that is expressed on activated T cells, B cells, and NK cells. CD69 is not expressed on resting T cells, B cells, or NK cells. CD69 has been found to be associated with inflammation. Assays for immunomodulatory proteins expressed in T cells, B cells, and leukocytes are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface</p>	<p>A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for activating B cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting activation of and/or inactivation NK cells. Highly preferred indications include inflammation and inflammatory disorders (e.g., as described below under "Immune Activity"). Preferred indications include blood disorders (e.g., as described below under "Immune</p>

47	HBJFK45	561	<p>markers, such as CD69, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Ferenzi et al., <i>J Autoimmun</i> 14(1):63-78 (2000); Werfel et al., <i>Allergy</i> 52(4):465-469 (1997); Taylor-Fishwick and Siegel, <i>Eur J Immunol</i> 25(12):3215-3221 (1995); and Afetra et al., <i>Ann Rheum Dis</i> 52(6):457-460 (1993), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response and alternatively suppressing a T cell-mediated immune response, and boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. An additional highly preferred indication includes infection (e.g., as described below under "Infectious Disease"). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, asthma, and allergies. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's</p>
	Activation of transcription through GAS response element in immune cells (such as T-cells).			

47	HBJFK45	561	<p>antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Matikainen et al., <i>Blood</i> 93(6):1980-1991 (1999); and Henttonen et al., <i>J Immunol</i> 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the SUPT cell line, that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p> <p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below),</p>
			<p>Assays for the activation of transcription through the Nuclear Factor of Activated T cells (NFAT) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of</p>	<p>Activation of transcription through NFAT response element in immune cells (such as natural killer cells).</p>

			<p>the invention) to regulate NFAT transcription factors and modulate expression of genes involved in immunomodulatory functions. Exemplary assays for transcription through the NFAT response element that may be used or routinely modified to test NFAT-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Aranburu et al., J Exp Med 182(3):801-810 (1995); De Boer et al., Int J Biochem Cell Biol 31(10):1221-1236 (1999); Fraser et al., Eur J Immunol 29(3):838-844 (1999); and Yessen et al., J Biol Chem 268(19):14285-14293 (1993), the contents of each of which are herein incorporated by reference in its entirety. NK cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human NK cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. An additional highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
48	HBIG20	562	<p>Activation of Skeletal Muscle Cell P13 Kinase Signalling Pathway</p>	<p>A highly preferred embodiment of the invention includes a method for increasing muscle cell survival. An alternative highly preferred embodiment of the invention includes a method for decreasing muscle cell survival.</p> <p>A preferred embodiment of the invention includes a method for stimulating muscle cell proliferation. In a specific embodiment, skeletal muscle cell proliferation is</p>

			<p>antibodies and agonists or antagonists of the invention) to promote or inhibit glucose metabolism and cell survival. Exemplary assays for PI3 kinase activity that may be used or routinely modified to test PI3 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Nikoulina et al., <i>Diabetes</i> 49(2):263-271 (2000); and Schreyer et al., <i>Diabetes</i> 48(8):1662-1666 (1999), the contents of each of which are herein incorporated by reference in its entirety. Rat myoblast cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat myoblast cells that may be used according to these assays include L6 cells. L6 is an adherent rat myoblast cell line, isolated from primary cultures of rat thigh muscle, that fuses to form multinucleated myotubes and striated fibers after culture in differentiation media.</p>	<p>stimulated. An alternative highly preferred embodiment of the invention includes a method for inhibiting muscle cell proliferation. In a specific embodiment, skeletal muscle cell proliferation is inhibited. A preferred embodiment of the invention includes a method for stimulating muscle cell differentiation. In a specific embodiment, skeletal muscle cell differentiation is stimulated. An alternative highly preferred embodiment of the invention includes a method for inhibiting muscle cell differentiation. In a specific embodiment, skeletal muscle cell differentiation is inhibited. Highly preferred indications of the musculoskeletal system. Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), endocrine disorders (e.g., as described below under "Endocrine Disorders"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia,</p>
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49	HBJKD16	563	Production of IL-6	<p>IL-6 FMAT. IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases. Assays for immunomodulatory and</p>	<p>endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infections (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal system including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include: myopathy, atrophy, congestive heart failure, cachexia, myxomas, fibromas, congenital cardiovascular abnormalities, heart disease, cardiac arrest, heart valve disease, and vascular disease. Highly preferred indications include neoplasms and cancer, such as, rhabdomyoma, rhabdomyosarcoma, stomach, esophageal, prostate, and urinary cancer. Preferred indications also include breast, lung, colon, pancreatic, brain, and liver cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as</p>
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				<p>differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhaesselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
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49	HBKDI6	563	Production of MIP1alpha	<p>MIP-1alpha FMAAT. Assays for immunomodulatory proteins produced by activated dendritic cells that upregulate monocyte/macrophage and T cell chemotaxis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate chemotaxis, and modulate T cell differentiation. Exemplary assays that test for immunomodulatory proteins evaluate the production of chemokines, such as macrophage inflammatory protein 1 alpha (MIP-1a), and the activation of monocytes/macrophages and T cells. Such assays that may be used or routinely modified to test immunomodulatory and chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Eremin, J R Coll Surg Edinb 45(1):9-19 (2001); Drakes et al., Transp Immunol 8(1):17-29 (2000); Verhasselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating MIP1a production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing MIP1a production). A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
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49	HB/KD16	563	<p>Stimulation of Calcium Flux in pancreatic beta cells.</p>	<p>art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>Assays for measuring calcium flux are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mobilize calcium. For example, the FLPR assay may be used to measure influx of calcium. Cells normally have very low concentrations of cytosolic calcium compared to much higher extracellular calcium. Extracellular factors can cause an influx of calcium, leading to activation of calcium responsive signaling pathways and alterations in cell functions. Exemplary assays that may be used or routinely modified to measure calcium flux by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Saini LS, et al., <i>Endocrinology</i>, 136(10):4589-601 (1995); Mogami H, et al., <i>Endocrinology</i>, 136(7):2960-6 (1995); Richardson SB, et al., <i>Biochem J</i>, 288 (Pt 3):847-51 (1992); and, Meats, JE, et al., <i>Cell Calcium</i> 1989 Nov-Dec;10(8):535-41 (1989), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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50	HBMBM96	564	Activation of transcription through serum response element in immune cells (such as T-cells).	<p>according to these assays include HTT15 Cells. HTT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777 Refs: Lord and Ashcroft. Biochem. J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.</p> <p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred</p>
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				<p>the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
51	HBMBX01	565	<p>Upregulation of CD152 and activation of T cells</p>	<p>CD152 FMAT. CD152 (a.k.a. CTLA-4) expression is restricted to activated T cells. CD152 is a negative regulator of T cell proliferation. Reduced CD152 expression has been linked to hyperproliferative and autoimmune diseases. Overexpression of CD152 may lead to impaired immunoresponses. Assays for immunomodulatory proteins important in the maintenance of T cell homeostasis and expressed almost exclusively on CD4+ and CD8+ T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, maintain T cell homeostasis, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such</p>	<p>A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma,</p>

52	HBMTM11	566	Protection from Endothelial Cell Apoptosis.	<p>as CD152, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); McCoy et al., Immunol Cell Biol 77(1):1-10 (1999); Oostervegal et al., Curr Opin Immunol 11(3):294-300 (1999); and Saito T, Curr Opin Immunol 10(3):313-321 (1998), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p> <p>Caspase Apoptosis Rescue. Assays for caspase apoptosis rescue are well known in the art and may be used or routinely modified to assess the ability of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to inhibit caspase protease-mediated apoptosis. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase</p>	<p>melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy. An additional preferred indication is infection (e.g., as described below under "Infectious Disease").</p>
				<p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation.</p>	

			<p>apoptosis rescue of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Romeo et al., Cardiovasc Res 45(3): 788-794 (2000); Messmer et al., Br J Pharmacol 127(7): 1633-1640 (1999); and J Atheroscler Thromb 3(2): 75-80 (1996), the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary endothelial cells that may be used according to these assays include bovine aortic endothelial cells (BAEC), which are an example of endothelial cells which line blood vessels and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms</p>
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53	HBMTX26	567	Production of IL-6	<p>IL-6 FMAIT. IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases. Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al.,</p>	<p>below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response. Highly preferred B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia,</p>
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54	HBMTY48	568	Activation of Skeletal Muscle Cell PI3 Kinase Signalling Pathway	<p>J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:158-160 (2000); and Verhasselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>Kinase assay. Kinase assays, for example an GSK-3 kinase assay, for PI3 kinase signal transduction that regulate glucose metabolism and cell survival are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit glucose metabolism and cell survival. Exemplary assays for PI3 kinase activity that may be used or routinely modified to test PI3 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Forrer et al., Biol Chem 379(8-9):1101-1110 (1998); Nikoulina et al., Diabetes 49(2):263-271 (2000); and Schreyer et al., Diabetes 48(8):1662-1666 (1999), the contents of each of which are herein incorporated by reference in its entirety.</p>	<p>leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, immunopenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemorrhagia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
				<p>A highly preferred embodiment of the invention includes a method for increasing muscle cell survival. An alternative highly preferred embodiment of the invention includes a method for decreasing muscle cell survival.</p> <p>A preferred embodiment of the invention includes a method for stimulating muscle cell proliferation. In a specific embodiment, skeletal muscle cell proliferation is stimulated. An alternative highly preferred embodiment of the invention includes a method for inhibiting muscle cell proliferation. In a specific embodiment, skeletal muscle cell proliferation is inhibited. A preferred embodiment of the invention includes a method for stimulating muscle cell differentiation. In a specific embodiment, skeletal muscle cell differentiation is stimulated. An alternative highly preferred embodiment of the invention includes a method for inhibiting muscle cell differentiation. In a specific embodiment, skeletal muscle cell differentiation is inhibited. A preferred embodiment of the invention includes a method for stimulating muscle cell differentiation. In a specific embodiment, skeletal muscle cell differentiation is stimulated. An alternative highly preferred embodiment of the invention includes a method for inhibiting muscle cell differentiation. In a specific embodiment, skeletal muscle cell differentiation is inhibited. Highly preferred indications include disorders of the musculoskeletal system. Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), endocrine disorders (e.g., as described below under "Endocrine Disorders"), neural</p>	

				<p>Rat myoblast cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat myoblast cells that may be used according to these assays include L6 cells. L6 is an adherent rat myoblast cell line, isolated from primary cultures of rat thigh muscle, that fuses to form multinucleated myotubes and striated fibers after culture in differentiation media.</p>	<p>disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), blood disorders (e.g., as described below under "Immune Activity"; "Cardiovascular Disorders"; and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infections (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal system including myopathies, muscular dystrophy, and/or as</p>
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					<p>described herein. Additional highly preferred indications include: myopathy, atrophy, congestive heart failure, cachexia, myxomas, fibromas, congenital cardiovascular abnormalities, heart disease, cardiac arrest, heart valve disease, and vascular disease. Highly preferred indications include neoplasms and cancer, such as, rhabdomyoma, rhabdomyosarcoma, stomach, esophageal, prostate, and urinary cancer. Preferred indications also include breast, lung, colon, pancreatic, brain, and liver cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, hyperplasia, metaplasia, and/or dysplasia.</p>
55	HBMUH74	569	Regulation of transcription of Malic Enzyme in adipocytes	<p>Assays for the regulation of transcription of Malic Enzyme are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate transcription of Malic Enzyme, a key enzyme in lipogenesis. Malic enzyme is involved in lipogenesis and its expression is stimulated by insulin. ME promoter contains two direct repeat (DR1)-like elements. MEP and MEa identified as putative PPAR response elements. ME promoter may also responds to AP1 and other transcription factors. Exemplary assays that may be used or routinely modified to test for regulation of transcription of Malic Enzyme (in adipocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Streep, R.S., et al., Mol Endocrinol, 12(11):1778-91 (1998); Garcia-Jimenez, C., et al., Mol Endocrinol, 8(10):1361-9 (1994); Barroso,</p>	<p>A highly preferred indication is diabetes mellitus.</p> <p>An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture).</p> <p>An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include</p>

				<p>I., et al., J Biol Chem, 274(25):17997-8004 (1999); Ijpeberg, A., et al., J Biol Chem, 272(32):20108-20117 (1997); Berger, et al., Gene 66:1-10 (1988); and, Cullen, B., et al., Methods in Enzymol. 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety. Hepatocytes that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary hepatocytes that may be used according to these assays includes the H4IIE rat liver hepatoma cell line.</p>	<p>weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
56	HBMWE61	570	Production of IL-6	<p>IL-6 FMAAT. IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases. Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described</p>

57	HBNA40	571	<p>production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "T-Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhaselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>Assays for the activation of transcription through the GATA3 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate GATA3 transcription factors and modulate expression of genes important for Th2 immune response development. Exemplary assays for transcription through the GATA3 response element that may be used or routinely modified to test GATA3-</p>	<p>below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
57	HBNA40	571	<p>Activation of transcription through GATA-3 response element in immune cells (such as T-cells).</p> <p>Assays for the activation of transcription through the GATA3 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate GATA3 transcription factors and modulate expression of genes important for Th2 immune response development. Exemplary assays for transcription through the GATA3 response element that may be used or routinely modified to test GATA3-</p>	<p>A highly preferred indication includes allergy. A highly preferred indication includes asthma. A highly preferred indication includes rhinitis. Additional highly preferred indications include infection (e.g., an infectious disease as described below under "Infectious Disease"), and inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Related indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below).</p>

58	HBNB176	572	<p>Activation of transcription through GAS response element in immune cells (such as T-cells).</p>	<p>response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henhorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Flavell et al., Cold Spring Harb Symp Quant Biol 64:563-571 (1999); Rodriguez-Palmero et al., Eur J Immunol 29(12):3914-3924 (1999); Zheng and Flavell, Cell 89(4):587-596 (1997); and Henderson et al., Mol Cell Biol 14(6):4286-4294 (1994), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the HT2 cell line, which is a suspension culture of IL-2 dependent T cells that also respond to IL-4.</p>	<p>Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancer, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease.</p>
			<p>Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element</p>	<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described</p>	

58	HBNI/76	572	Production of RANTES	<p>activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Matikainen et al., Blood 93(6):1980-1991 (1999); and Henthorn et al., J Immunol 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary mouse T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the CTL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>	<p>below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
			<p>RANTES FMAAT. Assays for immunomodulatory proteins that induce chemotaxis of T cells, monocytes, and eosinophils are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, induce chemotaxis, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as RANTES, and the induction of chemotactic responses in</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating RANTES production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) RANTES production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). A most highly preferred indication includes AIDS and/or the prevention or reduction of HIV infection. Additional highly preferred indication includes immune disorders, for example, inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g.,</p>	

			immune cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Cocchi et al., Science 270(5243):1811-1815 (1995); and Robinson et al., Clin Exp Immunol 101(3):398-407 (1995), the contents of each of which are herein incorporated by reference in its entirety. Human immune cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art.	<p>rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below).</p> <p>Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, asthma, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma, and allergy. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms, such as, for example, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
59	HBQAB79	573	<p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAI using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia,</p>

60	HBQAC57	574	<p>secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Altren, B., et al., <i>Am J Physiol</i>, 277(4 Pt 2):R959-66 (1999); Li, M., et al., <i>Endocrinology</i>, 138(9):3735-40 (1997); Kim, K.H., et al., <i>FEBS Lett</i>, 377(2):237-9 (1995); and Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. <i>Endocrinology</i> 1992 130:167.</p>	<p>endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
	Activation of Natural Killer Cell ERK Signaling Pathway.		<p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating natural killer cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting natural killer cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating natural killer cell differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting natural killer cell differentiation. Highly preferred indications include neoplastic diseases (e.g., as described below under</p>

61	HBSAK32	575	Activation of transcription through serum response element in immune cells (such as T-cells).	<p>used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Natural killer cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary natural killer cells that may be used according to these assays include the human natural killer cell lines (for example, NK-YT cells which have cytolytic and cytotoxic activity) or primary NK cells.</p>	<p>"Hyperproliferative Disorders", blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders", immune disorders (e.g., as described below under "Immune Activity") and infections (e.g., as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include cancers such as, kidney, melanoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, urinary cancer, lymphoma and leukemias. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Other highly preferred indications include, pancytopenia, leukopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), arthritis, asthma, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, immune reactions to transplanted organs and tissues, endocarditis, meningitis, Lyme Disease, and allergies.</p> <p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis,</p>
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62	HBXCM66	576	<p>growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2): 105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
			<p>Assays for the activation of transcription through the Nuclear Factor of Activated T cells (NFAT) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including</p>	<p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described</p>

63	HBXC15	577	<p>antibodies and agonists or antagonists of the invention) to regulate NFAT transcription factors and modulate expression of genes involved in immunomodulatory functions. Exemplary assays for transcription through the NFAT response element that may be used or routinely modified to test NFAT-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malin, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Serfling et al., <i>Biochim Biophys Acta</i> 1498(1):1-18 (2000); De Boer et al., <i>Int J Biochem Cell Biol</i> 31(10):1221-1236 (1999); Fraser et al., <i>Eur J Immunol</i> 29(3):838-844 (1999); and Yescen et al., <i>J Biol Chem</i> 268(19):14285-14293 (1993), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the JURKAT cell line, which is a suspension culture of leukemia cells that produce IL-2 when stimulated.</p>	<p>below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. An additional highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
			<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic</p>	

			<p>the invention) to activate the DMEF1 response element in a reporter construct (such as that containing the GLUT4 promoter) and to regulate insulin production. The DMEF1 response element is present in the GLUT4 promoter and binds to MEF2 transcription factor and another transcription factor that is required for insulin regulation of Glut4 expression in skeletal muscle. GLUT4 is the primary insulin-responsive glucose transporter in fat and muscle tissue. Exemplary assays that may be used or routinely modified to test for DMEF1 response element activity (in adipocytes and pre-adipocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: <i>Thia, M.V., et al., J Biol Chem, 273(23):14285-92 (1998); Mora, S., et al., J Biol Chem, 275(21):16323-8 (2000); Liu, M.L., et al., J Biol Chem, 269(45):28514-21 (1994); "Identification of a 30-base pair regulatory element and novel DNA binding protein that regulates the human GLUT4 promoter in transgenic mice", J Biol Chem. 2000 Aug 4;275(31):23666-73; Berger, et al., Gene 66:1-10 (1988); and, Cullen, B., et al., Methods in Enzymol. 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety. Adipocytes and pre-adipocytes that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these</i></p>	<p>neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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63	HBXCX15	577	<p>assays include the mouse 3T3-L1 cell line which is an adherent mouse preadipocyte cell line. Mouse 3T3-L1 cells are a continuous substrain of 3T3 fibroblasts developed through clonal isolation. These cells undergo a pre-adipocyte to adipocyte-like conversion under appropriate differentiation culture conditions.</p> <p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to bind the serum response factor and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types.</p> <p>Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Benson et al., <i>J Immunol</i> 153(9):3862-3873 (1994); and Black et al., <i>Virus Genes</i> 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells, such</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia,</p>
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63	HBXCX15	577	<p>Activation of STAT6 response element in immune cells (such as natural killer cells).</p>	<p>as the MOI T4, that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred indication is allergy. Another highly preferred indication is asthma. Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs</p>
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63	HBXCX15	577	Activation of transcription through GAS response element in immune cells (such as T-cells).	275(38):29331-29337 (2000), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat natural killer cells that may be used according to these assays are publicly available (e.g., through the ATCC). Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Matikainen et al., <i>Blood</i> 93(6):1980-1991 (1999); and Hentinen et al., <i>J Immunol</i> 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the SUPT cell line, that may be used	and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. Additional preferred indications include infection (e.g., an infectious disease as described below under "Infectious Disease").
				Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia,	

63	HBXCX15	577	Activation of transcription through NFAT response element in immune cells (such as natural killer cells).	Assays for the activation of transcription through the Nuclear Factor of Activated T cells (NFAT) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFAT transcription factors and modulate expression of genes involved in immunomodulatory functions. Exemplary assays for transcription through the NFAT response element that may be used or routinely modified to test NFAT-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henhorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Aramburu et al., J Exp Med 182(3):801-810 (1995); De Boer et al., Int J Biochem Cell Biol 31(10):1221-1236 (1999); Fraser et al., Eur J Immunol 29(3):838-844 (1999); and Yeseen et al., J Biol Chem 268(19):14285-14293 (1993), the contents of each of which are herein incorporated by reference	according to these assays are publicly available (e.g., through the ATCC).	thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.
				Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. An additional highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues,		

63	HBXC15	577	Activation of transcription through serum response element in immune cells (such as natural killer cells).	<p>in its entirety. NK cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human NK cells that may be used according to these assays include the NK-92 cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
			<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia,</p>	

			<p>be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease"). An additional highly preferred indication is diabetes mellitus associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and</p>
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64	HCDCY76	578	Endothelial Cell Apoptosis	<p>Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote caspase protease-mediated apoptosis. Induction of apoptosis in endothelial cells supporting the vasculature of tumors is associated with tumor regression due to loss of tumor blood supply. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Lee et al., <i>FEBS Lett</i> 485(2-3): 122-126 (2000); Nor et al., <i>J Vasc Res</i> 37(3): 209-218 (2000); and Karsan and Harlan, <i>J Atheroscler Thromb</i> 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary endothelial cells that may be used according to these assays include bovine aortic endothelial cells</p>	<p>breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac</p>
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			<p>(BAEC), which are an example of endothelial cells which line blood vessels but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangioepithelioma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, restenosis; venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as</p>
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65	HCDDL48	579	Activation of Endothelial Cell p38 or JNK Signaling Pathway.	<p>Kinase assay. JNK and p38 kinase assays for signal transduction that regulate cell proliferation, activation, or apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and apoptosis. Exemplary assays for JNK and p38 kinase activity that may be used or routinely modified to test JNK and p38 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Gupta et al., <i>Exp Cell Res</i> 247(2):</p>	<p>acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment/prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) endothelial cell activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g.,</p>
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66	HCE1G78	580	Endothelial Cell	Caspase Apoptosis. Assays for caspase	<p>pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, restenosis, venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment/prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p> <p>A highly preferred embodiment of the invention</p>
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			<p>apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote caspase protease-mediated apoptosis. Induction of apoptosis in endothelial cells supporting the vasculature of tumors is associated with tumor regression due to loss of tumor blood supply. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Lee et al., FEBS Lett 483(2-3): 122-126 (2000); Nor et al., J Vasc Res 37(3): 209-218 (2000); and Karsan and Hanan, J Atheroscler Thromb 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary endothelial cells that may be used according to these assays include bovine aortic endothelial cells (bAEC), which are an example of endothelial cells which line blood vessels and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization.</p>
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					<p>Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioidothelioma, angiosarcoma, haemangioepithelioma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, restenosis, venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment/prevention of endometriosis and related conditions.</p> <p>Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood</p>
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67	HCE2H52	581	Upregulation of CD71 and activation of T cells	<p>disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response.</p> <p>Additional highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include infection. Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia,</p>
				<p>CD71 FMAT: CD71 is the transferrin receptor. Transferrin is a major iron carrying protein that is essential for cell proliferation. CD71 is expressed predominantly on cells that are actively proliferating. Assays for immunomodulatory proteins expressed on activated T cells, B cells, and most proliferating cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD71, and the activation of T cells.</p> <p>Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a</p>

68	HCE3B04	582	<p>Activation of Natural Killer Cell ERK Signaling Pathway.</p>	<p>practical approach" Chapter 6:138-160 (2000); and Aferra et al., Ann Rheum Dis 52(6):457-460 (1993), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
			<p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., Biol Chem 379(8-9):1101-1110 (1998); Kyriakis JM, Biochem Soc Symp 64:29-48 (1999); Chang and Karin, Nature 410(6824):37-40 (2001); and Cobb MH, Prog Biophys Mol Biol 71(3-4):479-500 (1999); the contents of each of which are</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating natural killer cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting natural killer cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating natural killer cell differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting natural killer cell differentiation. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity" and infections (e.g., as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus,</p>	

69	HCE5F78	583	Activation of transcription through serum response element in immune cells (such as natural killer cells).	<p>herein incorporated by reference in its entirety. Natural killer cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary natural killer cells that may be used according to these assays include the human natural killer cell lines (for example, NK-YT cells which have cytolytic and cytotoxic activity) or primary NK cells.</p>	<p>multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include cancers such as, kidney, melanoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, urinary cancer, lymphoma and leukemias. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Other highly preferred indications include, pancytopenia, leukopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), arthritis, asthma, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, immune reactions to transplanted organs and tissues, endocarditis, meningitis, Lyme Disease, and allergies.</p>
			<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types.</p> <p>Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998), Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally,</p>	

70	HCEDR26	584	Stimulation of Calcium Flux in pancreatic beta cells.	<p>Acad Sci USA 85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK-92 cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neuropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment</p>
				<p>Assays for measuring calcium flux are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mobilize calcium. For example, the FLPR assay may be used to measure influx of calcium. Cells normally have very low concentrations of cytosolic calcium compared to much higher extracellular calcium. Extracellular factors can cause an influx of calcium, leading to activation of calcium responsive signaling pathways and alterations in cell functions. Exemplary assays that may be used or routinely modified to measure calcium flux by polypeptides of the invention (including</p>	

71	HCEB279	585	Regulation of apoptosis of immune cells (such as mast cells).	<p>antibodies and agonists or antagonists of the invention include assays disclosed in: Sain LS, et al., Endocrinology, 136(10):4589-601 (1995); Mogami H, et al., Endocrinology, 136(7):2960-6 (1995); Richardson SB, et al., Biochem J, 288 (Pt 3):847-51 (1992); and Meats, JE, et al., Cell Calcium 1989 Nov-Dec;10(8):535-41 (1989), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777</p> <p>Refs: Lord and Ashcroft. Biochem J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.</p>	<p>(e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
			<p>Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate caspase protease-mediated apoptosis in immune cells (such as, for example, in mast cells). Mast cells are found in connective and mucosal tissues</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of asthma, allergy, hypersensitivity and inflammation.</p>	

72	HCEEQ25	586	Activation of transcription through serum response element in immune cells (such as T-cells).	<p>throughout the body, and their activation via immunoglobulin E-antigen, promoted by T helper cell type 2 cytokines, is an important component of allergic disease. Dysregulation of mast cell apoptosis may play a role in allergic disease and mast cell tumor survival. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity induced by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Masuda A, et al., <i>J Biol Chem</i>, 276(28):26107-26113 (2001); Yeatman CF 2nd, et al., <i>J Exp Med</i>, 192(8):1093-1103 (2000); Lee et al., <i>FEBS Lett</i> 485(2-3): 122-126 (2000); Nor et al., <i>J Vasc Res</i> 37(3): 209-218 (2000); and Karsan and Harlan, <i>J Atheroscler Thromb</i> 3(2): 75-80 (1996), the contents of each of which are herein incorporated by reference in its entirety. Immune cells that may be used according to these assays are publicly available (e.g. through commercial sources). Exemplary immune cells that may be used according to these assays include mast cells such as the HMC human mast cell line.</p> <p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis,</p>
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72	HCBEQ25	586	<p>growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
			<p>growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>

				<p>as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders").</p> <p>Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response.</p> <p>Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
			<p>well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate inflammation and cytotoxicity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines such as tumor necrosis factor alpha (TNFα), and the induction or inhibition of an inflammatory or cytotoxic response. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Verhasselt et al., Eur J Immunol 28(11):3886-3890 (1998); Dahlen et al., J Immunol 160(7):3585-3593 (1998); Verhasselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation</p>	

73	HCEU18	587	<p>Activation of Adipocyte ERK Signaling Pathway</p>	<p>and functional activities:</p> <p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brustel Y., <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"). Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease,</p>
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			differentiation conditions known in the art.	stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.
73	HCEEU18	587	Assays for the activation of transcription through the Serum Response Element	A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha

			<p>(SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2): 105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute myelophytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below</p>
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74	HCHF/282	588	Production of IL-6	<p>IL-6 FMAT. IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases. Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhasselt et al., <i>J Immunol</i></p>	<p>under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia,</p>
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			<p>be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and</p>
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76	HCFLN88	590	Stimulation of Calcium Flux in pancreatic beta cells.	<p>Assays for measuring calcium flux are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mobilize calcium. For example, the FLJFR assay may be used to measure influx of calcium. Cells normally have very low concentrations of cytosolic calcium compared to much higher extracellular calcium. Extracellular factors can cause an influx of calcium, leading to activation of calcium responsive signaling pathways and alterations in cell functions. Exemplary assays that may be used or routinely modified to measure calcium flux by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Saini LS, et al., <i>Endocrinology</i>, 136(10):4589-601 (1995); Mogami H, et al., <i>Endocrinology</i>, 136(7):2960-6 (1995); Richardson SB, et al., <i>Biochem J</i>, 288 (Pt 3):847-51 (1992); and, Meats, JE, et al., <i>Cell Calcium</i> 1989 Nov-Dec;10(8):535-41 (1989), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly</p>	<p>breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyponatremic coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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76	HCFLN88	590	<p>Activation of transcription through cAMP response element in immune cells (such as T-cells).</p>	<p>available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATCC# CRL-1777</p> <p>Refs: Lord and Ashcroft. <i>Biochem. J.</i> 219: 547-551; Santerre et al. <i>Proc. Natl. Acad. Sci. USA</i> 78: 4339-4343, 1981.</p>	<p>Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions,</p>
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				Belkowski et al., J Immunol 161(2):659-665 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the HT2 cell line, which is a suspension culture of IL-2 dependent T cells that also respond to IL-4.	such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.
76	HCFLN88	590	Activation of transcription through serum response element in immune cells (such as T-cells).	Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. Mouse T cells that may be used according to these assays are publicly available (e.g., through the	A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g. as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and

77	HCFLT90	591	<p>Upregulation of CD152 and activation of T cells</p>	<p>ATCC). Exemplary mouse T cells that may be used according to these assays include the HT2 cell line, which is an IL-2 dependent suspension culture of T cells that also respond to IL-4.</p>	<p>pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic,</p>
			<p>CD152 FMAT. CD152 (a.k.a. CTLA-4) expression is restricted to activated T cells. CD152 is a negative regulator of T cell proliferation. Reduced CD152 expression has been linked to hyperproliferative and autoimmune diseases. Overexpression of CD152 may lead to impaired immunoresponses. Assays for immunomodulatory proteins important in the maintenance of T cell homeostasis and expressed almost exclusively on CD4+ and CD8+ T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, maintain T cell homeostasis, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD152, and the activation of T cells.</p>		

				<p>Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); McCoy et al., Immunol Cell Biol 77(1):1-10 (1999); Oosterveg et al., Curr Opin Immunol 11(3):294-300 (1999); and Saito T, Curr Opin Immunol 10(3):313-321 (1998), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy. An additional preferred indication is infection (e.g., as described below under "Infectious Disease").</p>
78	HCHAB4	592	Stimulation of Calcium Flux in pancreatic beta cells.	<p>Assays for measuring calcium flux are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mobilize calcium. For example, the FLPR assay may be used to measure influx of calcium. Cells normally have very low concentrations of cytosolic calcium compared to much higher extracellular calcium. Extracellular factors</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar</p>

			<p>can cause an influx of calcium, leading to activation of calcium responsive signaling pathways and alterations in cell functions. Exemplary assays that may be used or routinely modified to measure calcium flux by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Satin LS, et al., <i>Endocrinology</i>, 136(10):4589-601 (1995); Mogami H, et al., <i>Endocrinology</i>, 136(7):2960-6 (1995); Richardson SB, et al., <i>Biochem J</i>, 288 (Pt 3):847-51 (1992); and, Meats, JE, et al., <i>Cell Calcium</i> 1989 Nov-Dec;10(8):535-41 (1989), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777.</p> <p>Refs: Lord and Ashcroft. <i>Biochem. J.</i> 219: 547-551; Santerre et al. <i>Proc. Natl. Acad. Sci. USA</i> 78: 4339-4343, 1981.</p>	<p>coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
79	HCM5X51	593	<p>Regulation of apoptosis in pancreatic beta cells.</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure,</p>

			<p>invention (including antibodies and agonists or antagonists of the invention) to promote caspase protease-mediated apoptosis. Apoptosis in pancreatic beta is associated with induction and progression of diabetes. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Loweth, AC, et al., FEBS Lett. 400(3):285-8 (1997); Saini, KS, et al., Biochem Mol Biol Int, 39(6):1229-36 (1996); Krauthelm, A., et al., Br J Pharmacol, 129(4):687-94 (2000); Chandra J, et al., Diabetes, 50 Suppl 1:S44-7 (2001); Suk K, et al., J Immunol, 166(7):4481-9 (2001); Tejedo J, et al., FEBS Lett, 459(2):238-43 (1999); Zhang, S., et al., FEBS Lett, 455(3):315-20 (1999); Lee et al., FEBS Lett 485(2-3): 122-126 (2000); Nor et al., J Vasc Res 37(3): 209-218 (2000); and Kansan and Harlan, J Atheroscler Thromb 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include RIN-m. RIN-m is a rat adherent pancreatic beta cell insulinoma cell line derived from a radiation induced transplantable rat islet cell tumor. The cells produce and secrete</p>	<p>neuropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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80	HCNCO11	594	<p>Stimulation of insulin secretion from pancreatic beta cells.</p>	<p>islet polypeptide hormones, and produce insulin, somatostatin and possibly glucagon. ATTC: #CRL-2057 Chick et al. Proc. Natl. Acad. Sci. 1977 74:628; AF et al. Proc. Natl. Acad. Sci. 1980 77:3519.</p> <p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., <i>Am J Physiol</i>, 277(d Pt 2):R959-66 (1999); Li, M., et al., <i>Endocrinology</i>, 138(9):3735-40 (1997); Kim, K. H., et al., <i>FEBS Lett</i>, 377(2):237-9 (1995); and, Minglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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81	HCNSD29	595	Stimulation of insulin secretion from pancreatic beta cells.	<p>pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. Endocrinology. 1992 130:167.</p> <p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., Am J Physiol, 277(G Pt 2):R959-66 (1999); Li, M., et al., Endocrinology, 138(9):3735-40 (1997); Kim, K.H., et al., FEBS Lett, 377(2):237-9 (1995); and, Miraglia S et al., Journal of Biomolecular Screening, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated</p>
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82	HCQBHT2	596	<p>entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Afari et al. <i>Endocrinology</i> 1992 130:167.</p> <p>Assays for the regulation of viability and proliferation of cells in vitro are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate viability and proliferation of pancreatic beta cells. For example, the Cell Titer-Glo luminescent cell viability assay measures the number of viable cells in culture based on quantitation of the ATP present which signals the presence of metabolically active cells. Exemplary assays that may be used or routinely modified to test regulation of viability and proliferation of pancreatic beta cells by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Friedrichsen BN, et al., <i>Mol Endocrinol</i>, 15(1):136-48 (2001); Huotari MA, et al., <i>Endocrinology</i>, 139(4):1494-9 (1998); Hugl SR, et al., J</p>	<p>with insulin resistance.</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred</p>
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				<p>indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>

83	HCQCC96	597	Activation of Adipocyte PI3 Kinase Signalling Pathway	<p>(2000); Salapatek, A.M., et al., Mol Endocrinol, 13(8):1305-17 (1999); Filipsson, K., et al., Am N Y Acad Sci, 865:441-4 (1998); Olson, L.K., et al., J Biol Chem, 271(28):16544-52 (1996); and, Miraglia S et al., Journal of Biomolecular Screening, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777</p> <p>Refs: Lord and Ashcroft. Biochem. J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.</p> <p>Kinase assay. Kinase assays, for example an GSK-3 assays, for PI3 Kinase signal transduction that regulate glucose metabolism and cell survival are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit glucose metabolism and cell survival. Exemplary assays for PI3 Kinase activity</p>	<p>Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
			<p>Kinase assay. Kinase assays, for example an GSK-3 assays, for PI3 Kinase signal transduction that regulate glucose metabolism and cell survival are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit glucose metabolism and cell survival. Exemplary assays for PI3 Kinase activity</p>	<p>A highly preferred embodiment of the invention includes a method for increasing adipocyte survival. An alternative highly preferred embodiment of the invention includes a method for decreasing adipocyte survival. A preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a</p>	

<p>that may be used or routinely modified to test PI3 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Nikoulina et al., <i>Diabetes</i> 49(2):263-271 (2000); and Schreyer et al., <i>Diabetes</i> 48(8):1662-1666 (1999), the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>method for inhibiting adipocyte differentiation. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"). Preferred indications include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"), blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly</p>
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83	HCQC96	597	Regulation of transcription through the PEPCK promoter in hepatocytes	<p>Assays for the regulation of transcription through the PEPCK promoter are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to activate the PEPCK promoter in a reporter construct and regulate liver gluconeogenesis. Exemplary assays for regulation of transcription through the PEPCK promoter that may be used or routinely modified to test for PEPCK promoter activity (in hepatocytes) of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in</p>	<p>preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein.</p> <p>Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Highly preferred indications include neoplasms and cancer, such as, lipoma, liposarcoma, lymphoma, leukemia and breast, colon, and kidney cancer. Additional highly preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine</p>
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<p>Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Lochhead et al., Diabetes 49(6):896-903 (2000); and Yeagley et al., J Biol Chem 275(23):17814-17820 (2000), the contents of each of which is herein incorporated by reference in its entirety. Hepatocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary liver hepatoma cells that may be used according to these assays include H4Ile cells, which contain a tyrosine amino transferase that is inducible with glucocorticoids, insulin, or cAMP derivatives.</p>	<p>Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., an infectious diseases or disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include glycogen storage disease (e.g., glycogenoses), hepatitis, gallstones, cirrhosis of the liver, degenerative or necrotic liver disease, alcoholic liver diseases, fibrosis liver regeneration, metabolic disease, dyslipidemia and cholesterol metabolism, and hepatocarcinomas. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), infection (e.g., an infectious disease and/or disorder as described below under "Infectious Disease"), endocrine disorders (e.g., as described below under "Endocrine Disorders"), and neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"). Additional preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, and urinary cancer. A highly preferred indication is liver cancer. Other preferred indications include benign dysproliferative</p>
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83	HCQC96	597	Activation of Skeletal Muscle Cell ERK Signalling Pathway	<p>Kinase assay. Kinase assays, for example Elk-1 kinase assays, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brustel Y., <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Rat myoblast cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat myoblast cells that may be used according to these assays include L6 cells. L6 is an adherent rat myoblast cell line, isolated from primary cultures of rat thigh muscle, that fuses to form multinucleated myotubes and striated fibers after culture in differentiation media.</p>	<p>disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders") and disorders of the musculoskeletal system. Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications</p>
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84	HCQCJ56	598	Activation of Adipocyte ERK Signaling Pathway	<p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brustel Y, <i>Exp Clin</i></p>	<p>associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein.</p> <p>Additional highly preferred indications include: myopathy, atrophy, congestive heart failure, cachexia, myxomas, fibromas, congenital cardiovascular abnormalities, heart disease, cardiac arrest, heart valve disease, and vascular disease. Highly preferred indications include neoplasms and cancer, such as, rhabdomyoma, rhabdiosarcoma, stomach, esophageal, prostate, and urinary cancer. Highly preferred indications also include breast, lung, colon, pancreatic, brain, and liver cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders").</p> <p>Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described</p>
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85	HCQC24	599	Production of RANTES	<p>indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>	<p>indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
				<p>A highly preferred embodiment of the invention includes a method for stimulating RANTES production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) RANTES production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). A most highly preferred indication includes AIDS and/or the prevention or reduction of HIV infection. Additional highly preferred indication includes immune disorders, for example, inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating RANTES production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) RANTES production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). A most highly preferred indication includes AIDS and/or the prevention or reduction of HIV infection. Additional highly preferred indication includes immune disorders, for example, inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple</p>

86	HCRAY10	600	Production of IFN γ using a T cells	<p>in Minglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Cocchi et al., Science 270(5243):1811-1815 (1995); and Robinson et al., Clin Exp Immunol 101(3):398-407 (1995), the contents of each of which are herein incorporated by reference in its entirety. Human immune cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art.</p>	<p>myeloma, Burkitt's lymphoma, arthritis, asthma, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma, and allergy. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms, such as, for example, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
			<p>IFNγ FMAAT. IFNγ plays a central role in the immune system and is considered to be a proinflammatory cytokine. IFNγ promotes TH1 and inhibits TH2 differentiation; promotes IgG2a and inhibits IgE secretion; induces macrophage activation; and increases MHC expression. Assays for immunomodulatory proteins produced by T cells and NK cells that regulate a variety of inflammatory activities and inhibit TH2 helper cell functions are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, regulate inflammatory activities, modulate TH2 helper cell function, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease"). Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiency (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional preferred indications include idiopathic pulmonary fibrosis. Highly preferred indications include neoplastic diseases (e.g., leukemia,</p>	

			<p>immunomodulatory proteins evaluate the production of cytokines, such as Interferon gamma (IFNγ), and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "T lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., J Clin Lab Anal 8(5):225-233 (1995); Billiau et al., Ann NY Acad Sci 856:22-32 (1998); Boehm et al., Annu Rev Immunol 15:749-795 (1997), and Rheumatology (Oxford) 38(3):214-20 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art.</p> <p>Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
87	HCRBF72	601	<p>Activation of transcription through GAS response element in immune cells (such as T-cells).</p>	<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon,</p>

			<p>the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Matikainen et al., Blood 93(6):1980-1991 (1999); and Hentinen et al., J Immunol 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the SUPT cell line, that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
88	HCRNF78	602	Production of IL-6	<p>IL-6 PMAT. IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and</p>

			<p>chronic hyperproliferative diseases.</p> <p>Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function.</p> <p>Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities.</p> <p>Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhaesselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or</p>	<p>Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer.</p> <p>Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
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89	HCUAF85	603	<p>Activation of transcription through NFκB response element in epithelial cells (such as HELA cells).</p>	<p>Cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>Assays for the activation of transcription through the NFκB response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFκB transcription factors and modulate expression of epithelial genes.</p> <p>Exemplary assays for transcription through the NFκB response element that may be used or routinely modified to test NFκB-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Kalschmidt B, et al., <i>Oncogene</i>, 18(21):3213-3225 (1999); Beetz A, et al., <i>Int J Radiat Biol</i>, 76(11):1443-1453 (2000); Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malin, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Valle Blazquez et al., <i>Immunology</i> 90(3):455-460 (1997); Arambourau et al., <i>J Exp Med</i> 82(3):801-810 (1995); and Fraser et al., 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. Epithelial cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p> <p>Exemplary epithelial cells that may be used according to these assays include the HELA cell line.</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Cancer, Wound Healing, and Inflammation. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include inflammation and inflammatory disorders.</p>
90	HCUCF89	604	<p>Protection from</p>	<p>Caspase Apoptosis Rescue. Assays for</p>	<p>A highly preferred embodiment of the invention</p>

	Endothelial Cell Apoptosis.	<p>caspase apoptosis rescue are well known in the art and may be used or routinely modified to assess the ability of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to inhibit caspase protease-mediated apoptosis. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis rescue of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Romeo et al., <i>Cardiovasc Res</i> 45(3): 788-794 (2000); Messmer et al., <i>Br J Pharmacol</i> 127(7): 1633-1640 (1999); and J Atheroscler Thromb 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary endothelial cells that may be used according to these assays include bovine aortic endothelial cells (BAEC), which are an example of endothelial cells which line blood vessels and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>
		<p>includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect</p>

					<p>vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioideneloma, angiosarcoma, haemangiopericytoma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, restenosis; venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vascularitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment</p>
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90	HCUCF89	604	Regulation of apoptosis of immune cells (such as mast cells).	<p>Prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p> <p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of asthma, allergy, hypersensitivity and inflammation.</p>
				<p>Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate caspase protease-mediated apoptosis in immune cells (such as, for example, in mast cells). Mast cells are found in connective and mucosal tissues throughout the body, and their activation via immunoglobulin E-antigen, promoted by T helper cell type 2 cytokines, is an important component of allergic disease. Dysregulation of mast cell apoptosis may play a role in allergic disease and mast cell tumor survival. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity induced by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Masuda A,</p>

91	HCUCK44	605	Protection from Endothelial Cell Apoptosis.	<p>et al., J Biol Chem, 276(28):26107-26113 (2001); Yearman CF 2nd, et al., J Exp Med, 192(8):1093-1103 (2000); Lee et al., FEBS Lett 485(2-3): 122-126 (2000); Nor et al., J Vasc Res 37(3): 209-218 (2000); and Karsan and Harlan, J Atheroscler Thromb 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Immune cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary immune cells that may be used according to these assays include mast cells such as the HMC human mast cell line.</p> <p>Caspase Apoptosis Rescue. Assays for caspase apoptosis rescue are well known in the art and may be used or routinely modified to assess the ability of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to inhibit caspase protease-mediated apoptosis. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis rescue of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Romeo et al., Cardiovasc Res 45(3): 788-794 (2000); Messmer et al., Br J Pharmacol 127(7): 1633-1640 (1999); and J Atheroscler Thromb 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred</p>
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				<p>commercial sources). Exemplary endothelial cells that may be used according to these assays include bovine aortic endothelial cells (bAEC), which are an example of endothelial cells which line blood vessels and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p> <p>embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangiopericytoma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension,</p>
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91	HUCK44	605	Production of MCP-1	<p>MCP-1 FMAT. Assays for immunomodulatory proteins that are produced by a large variety of cells and act to induce chemotaxis and activation of monocytes and T cells are well known in the art and may be used or routinely modified to assess the ability of</p>

			<p>polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, induce chemotaxis, and modulate immune cell activation.</p> <p>Exemplary assays that test for immunomodulatory proteins evaluate the production of cell surface markers, such as monocyte chemoattractant protein (MCP), and the activation of monocytes and T cells. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Mitraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sarthaporn and Eremin, J R Coll Surg Ednb 45(1):9-19 (2001); and Verhaselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis (bacterial and viral), Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
92	HCUD64	606	<p>Production of GM-CSF</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating the production of GM-CSF. An alternative highly preferred embodiment of the</p>

			<p>CSF regulates differentiation and proliferation of granulocytes- macrophage progenitors and enhances antimicrobial activity in neutrophils, monocytes and macrophage. Additionally, GM-CSF plays an important role in the differentiation of dendritic cells and monocytes, and increases antigen presentation. GM-CSF is considered to be a proinflammatory cytokine. Assays for immunomodulatory proteins that promote the production of GM-CSF are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and modulate the growth and differentiation of leukocytes. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as GM-CSF, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Ye et al., J Leukoc Biol (58/2):225-233, the contents of each of which are herein incorporated by reference in its entirety. Natural killer cells that may be used according to these assays are publicly available (e.g., through the ATCC) or may be isolated using</p>	<p>invention includes a method for inhibiting the production of GM-CSF. Highly preferred indications include inflammation and inflammatory disorders. An additional highly preferred indication is infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include blood disorders (e.g., neutropenia) and the prevention of neutropenia (e.g., in HIV infected patients), and/or as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications also include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include asthma. Highly preferred indications include neoplastic diseases (e.g., leukemia (e.g., acute lymphoblastic leukemia, and acute myelogenous leukemia), lymphoma (e.g., non-Hodgkin's lymphoma and Hodgkin's disease), and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications include: suppression of immune reactions to transplanted organs and tissues (e.g., bone marrow transplant), accelerating myeloid recovery; and mobilizing hematopoietic progenitor cells. Preferred indications include boosting a T cell-mediated immune response, and alternatively, suppressing a T cell-mediated immune response. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease,</p>
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92	HCUDD64	606	Regulation of apoptosis in pancreatic beta cells.	<p>techniques disclosed herein or otherwise known in the art. Natural killer (NK) cells are large granular lymphocytes that have cytotoxic activity but do bind antigen. NK cells show antibody-independent killing of tumor cells and also recognize antibody bound on target cells, via NK Fc receptors, leading to cell-mediated cytotoxicity.</p> <p>Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote caspase protease-mediated apoptosis. Apoptosis in pancreatic beta is associated with induction and progression of diabetes. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Loweth, AC, et al., FEBS Lett, 400(3):285-8 (1997); Saini, KS, et al., Biochem Mol Biol Int, 39(6):1229-36 (1996); Krauthelm, A, et al., Br J Pharmacol, 129(4):687-94 (2000); Chandra J, et al., Diabetes, 50 Suppl 1:S44-7 (2001); Suk K, et al., J Immunol, 166(7):4481-9 (2001); Tejedo J, et al., FEBS Lett, 459(2):238-43 (1999); Zhang, S, et al., FEBS Lett, 455(3):315-20 (1999); Lee et al., FEBS Lett, 485(2-3): 122-126 (2000); Nor et al., J Vasc Res 37(3): 209-218 (2000); and Karan and Harlan, J Atheroscler Thromb 3(2): 75-80</p>	<p>inflammatory bowel disease, sepsis, neutrophilia, psoriasis, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and allergy.</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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93	HCWAE64	607	<p>Regulation of transcription via DMEF1 response element in adipocytes and pre-adipocytes</p>	<p>(1996); the contents of each of which are herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include RIN-m. RIN-m is a rat adherent pancreatic beta cell insulinoma cell line derived from a radiation induced transplantable rat islet cell tumor. The cells produce and secrete islet polypeptide hormones, and produce insulin, somatostatin, and possibly glucagon. ATCC: #CRL-2057 Chick et al. Proc. Natl. Acad. Sci. 1977 74:628; AF et al. Proc. Natl. Acad. Sci. 1980 77:3519.</p> <p>Assays for the regulation of transcription through the DMEF1 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to activate the DMEF1 response element in a reporter construct (such as that containing the GLUT4 promoter) and to regulate insulin production. The DMEF1 response element is present in the GLUT4 promoter and binds to ME2 transcription factor and another transcription factor that is required for insulin regulation of Glut4 expression in skeletal muscle. GLUT4 is the primary insulin-responsive glucose transporter in fat and muscle tissue. Exemplary assays that may be used or routinely modified to</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, blindness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious</p>
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			<p>test for DMET1 response element activity (in adipocytes and pre-adipocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Thia, M.V., et al., J Biol Chem. 273(23):14285-92 (1998); Mora, S., et al., J Biol Chem. 275(21):16323-8 (2000); Liu, M.L., et al., J Biol Chem. 269(45):28514-21 (1994); "Identification of a 30-base pair regulatory element and novel DNA binding protein that regulates the human GLUT14 promoter in transgenic mice", J Biol Chem. 2000 Aug 4;275(31):23666-73; Berger, et al., Gene 66:1-10 (1988); and, Cullen, B., et al., Methods in Enzymol. 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety. Adipocytes and pre-adipocytes that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include the mouse 3T3-L1 cell line which is an adherent mouse preadipocyte cell line. Mouse 3T3-L1 cells are a continuous substrain of 3T3 fibroblasts developed through clonal isolation. These cells undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation culture conditions.</p>	<p>diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
93	HCWAE64	607	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications</p>

			<p>(including antibodies and agonists or antagonists of the invention) to bind the serum response factor and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types.</p> <p>Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Benson et al., <i>J Immunol</i> 153(9):3862-3873 (1994); and Black et al., <i>Virus Genes</i> 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells, such as the MOL.T4, that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred indication is allergy. Another highly preferred indication is asthma.</p>
93	HCW/AE64	607	<p>Assays for the activation of transcription through the Signal Transducers and</p>	

			<p>STAT6 response element in immune cells (such as natural killer cells).</p>	<p>Activators of Transcription (STAT6) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT6 transcription factors and modulate the expression of multiple genes. Exemplary assays for transcription through the STAT6 response element that may be used or routinely modified to test STAT6 response element activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Georas et al., Blood 92(12):4529-4538 (1998); Moffatt et al., Transplantation 69(7):1521-1523 (2000); Curlet et al., Eur J Immunol 27(8):1982-1987 (1997); and Masuda et al., J Biol Chem 275(38):29331-29337 (2000), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat natural killer cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>Highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. Additional preferred indications include infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
	93	HCWAE64	607	<p>Activation of transcription through GAS response element in immune cells (such</p>	<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for</p>

			as T-cells.	<p>routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Madkainen et al., <i>Blood</i> 93(6):1980-1991 (1999); and Hentinen et al., <i>J Immunol</i> 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the SUPT cell line, that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, porriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
93	HCWAE64	607	Activation of transcription through NFAT response element in immune cells (such as natural	<p>Assays for the activation of transcription through the Nuclear Factor of Activated T cells (NFAT) response element are well-known in the art and may be used or routinely modified to assess the ability of</p>	<p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic</p>

		killer cells).	<p>polypeptides of the invention (including antibodies and agonists of the invention) to regulate NFAT transcription factors and modulate expression of genes involved in immunomodulatory functions. Exemplary assays for transcription through the NFAT response element that may be used or routinely modified to test NFAT-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malin, <i>Methods in Enzymol</i> 216:362-368 (1992); Henhorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Aranburu et al., <i>J Exp Med</i> 182(3):801-810 (1995); De Boer et al., <i>Int J Biochem Cell Biol</i> 31(10):1221-1236 (1999); Fraser et al., <i>Eur J Immunol</i> 29(3):838-844 (1999); and Yessen et al., <i>J Biol Chem</i> 268(19):14285-14293 (1993), the contents of each of which are herein incorporated by reference in its entirety. NK cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p> <p>Exemplary human NK cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response.</p> <p>Additional highly preferred indications include inflammation and inflammatory disorders. An additional highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
93	HCWAE64	607	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications</p>

			<p>(including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types.</p> <p>Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
94	HCWFU39	608	<p>Upregulation of CD71 and activation of T cells</p>	<p>CD71 FMAT. CD71 is the transferrin receptor. Transferrin is a major iron</p> <p>A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An</p>

			<p>carrying protein that is essential for cell proliferation. CD71 is expressed predominantly on cells that are actively proliferating. Assays for immunomodulatory proteins expressed on activated T cells, B cells, and most proliferating cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD71, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach", Chapter 6:138-160 (2000); and Afetra et al., Ann Rheum Dis 52(6):457-460 (1993), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art.</p> <p>Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or</p>	<p>alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include infection. Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
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95	HCWU09	609	<p>Activation of transcription through GATA-3 response element in immune cells (such as T-cells).</p>	<p>cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p> <p>Assays for the activation of transcription through the GATA3 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate GATA3 transcription factors and modulate expression of genes important for Th2 immune response development.</p> <p>Exemplary assays for transcription through the GATA3 response element that may be used or routinely modified to test GATA3-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1993); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Hendorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Flavell et al., Cold Spring Harb Symp Quant Biol 64:563-571 (1999); Rodriguez-Palmero et al., Eur J Immunol 29(12):3914-3924 (1999); Zheng and Flavell, Cell 89(4):587-596 (1997); and Henderson et al., Mol Cell Biol 14(6):4286-4294 (1994), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the HT2 cell line, which is a</p>	<p>A highly preferred indication includes allergy. A highly preferred indication includes asthma. A highly preferred indication includes rhinitis. Additional highly preferred indications include infection (e.g., an infectious disease as described below under "Infectious Disease"), and inflammation and inflammatory disorders.</p> <p>Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders").</p> <p>Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below).</p> <p>Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancer, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease.</p>
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96	HDHAA42	610	Production of IFN γ using Natural Killer cells	<p>suspension culture of IL-2 dependent T cells that also respond to IL-4.</p> <p>IFNγ plays a central role in the immune system and is considered to be a proinflammatory cytokine. IFNγ promotes TH1 and inhibits TH2, promotes IgG2a and inhibits IgE; induces macrophage activation; and increases MHC expression. Assays for immunomodulatory proteins produced by T cells and NK cells that regulate a variety of inflammatory activities and inhibit TH2 helper cell functions are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, regulate inflammatory activities, modulate TH2 helper cell function, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as Interferon gamma (IFNγ), and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., J Clin Lab Anal 8(5):225-233 (1995); Billiau et al., Ann NY Acad Sci 856:22-32</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", "Hyperproliferative Disorders" (e.g., cancer/tumorigenesis) and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease"). Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiency (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response, boosting antibody-dependent immune responses, suppressing antibody-dependent immune responses, boosting innate immunity and immune responses, and suppressing innate immunity and immune responses. Additional highly preferred indications include inflammation and inflammatory disorders. Additional preferred indications include idiopathic pulmonary fibrosis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia.</p>
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97	HDHBB76	611	Production of IL-6	<p>(1998); Boehm et al., <i>Annu Rev Immunol</i> 15:749-795 (1997), and <i>Rheumatology</i> (Oxford) 38(3):214-20 (1999), the contents of each of which are herein incorporated by reference in its entirety. Natural Killer (NK) cells that may be used according to these assays are publicly available (e.g., through the ATCC) or may be isolated using techniques disclosed herein or otherwise known in the art. Natural killer (NK) cells are large granular lymphocytes that have cytotoxic activity but do bind antigen. NK cells slow antibody-independent killing of tumor cells and also recognize antibody bound on target cells, via NK Fc receptors, leading to cell-mediated cytotoxicity.</p> <p>IL-6 FMA1: IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases. Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and</p>	<p>leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
				<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include</p>	

				<p>modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhaesselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>		<p>asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
98	HDPCW16	612	Production of MIP1alpha	<p>MIP-1alpha FMAAT. Assays for immunomodulatory proteins produced by activated dendritic cells that upregulate monocyte/macrophage and T cell chemotaxis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating MIP1a production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MIP1a production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications</p>	

98	HDPCW16	612	Production of ICAM-1	chemotaxis, and modulate T cell differentiation. Exemplary assays that test for immunomodulatory proteins evaluate the production of chemokines, such as macrophage inflammatory protein 1 alpha (MIP-1a), and the activation of monocytes/macrophages and T cells. Such assays that may be used or routinely modified to test immunomodulatory and chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Freeman, J R Coll Surg Ednb 45(1):9-19 (2001); Drake et al., Transp Immunol 8(1):17-29 (2000); Verhasselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999); the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.	include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.	Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Inflammation, Vascular Disease, Atherosclerosis, Restenosis, and Stroke
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99	HDPD172	613	<p>Activation of transcription through serum response element in immune cells (such as natural killer cells).</p>	<p>agonists or antagonists of the invention) to regulate ICAM-1 expression. Exemplary assays that may be used or routinely modified to measure ICAM-1 expression include assays disclosed in: Takacs P. et al, FASEB J. 15(2):279-281 (2001); and, Miyamoto K. et al., Am J Pathol, 156(5):1733-1739 (2000), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include microvascular endothelial cells (MVEC).</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity," "Blood-Related Disorders" and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and</p>
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Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK-92 cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.				<p>cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders").</p> <p>Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described</p>
Activation of Adipocyte ERK Signaling Pathway	614	HDPD158	100	<p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brustel Y., <i>Exp Clin</i></p>

				<p>Endocrinol Diabetes 107(2):126-132 (1999); Kyriakis JM, Biochem Soc Symp 64:29-48 (1999); Chang and Karin, Nature 410(6824):37-40 (2001); and Cobb MH, Prog Biophys Mol Biol 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>below under "Hyperproliferative Disorders"), preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred</p>	<p>below under "Hyperproliferative Disorders"), preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred</p>
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100	HDPDJ58	614	Upregulation of CD71 and activation of T cells	<p>indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include infection. Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example,</p>
				<p>CD71 FMAT. CD71 is the transferrin receptor. Transferrin is a major iron carrying protein that is essential for cell proliferation. CD71 is expressed predominantly on cells that are actively proliferating. Assays for immunomodulatory proteins expressed on activated T cells, B cells, and most proliferating cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD71, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory</p>

101	HDPFF10	615	Production of MIP1alpha	<p>activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Afeira et al., <i>Ann Rheum Dis</i> 52(6):457-460 (1993), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
				<p>A highly preferred embodiment of the invention includes a method for stimulating MIP1a production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MIP1a production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications also include anemia, pancytopenia,</p>	

102	HDPFU43	616	Production of IL-6	<p>monocytes/macrophages and T cells. Such assays that may be used or routinely modified to test immunomodulatory and chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraigla et al., J Biomolecular Screening 4:1193-1204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Eremin, J R Coll Surg Edinb 45(1):9-19 (2001); Drakes et al., Transp Immunol 8(1):7-29 (2000); Verhasselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
				<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity"; "Blood-Related Disorders"; and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly</p>	

102	HDPU43	616	Activation of Skeletal Kinase assay. Kinase assays, for example	<p>a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach," Chapter 6:138-160 (2000); and Verhaselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neuropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
				A highly preferred embodiment of the invention	

			<p>an GSK-3 kinase assay, for PI3 kinase signal transduction that regulate glucose metabolism and cell survival are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit glucose metabolism and cell survival. Exemplary assays for PI3 kinase activity that may be used or routinely modified to test PI3 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Nikoulina et al., <i>Diabetes</i> 49(2):263-271 (2000); and Schreyer et al., <i>Diabetes</i> 48(8):1662-1666 (1999), the contents of each of which are herein incorporated by reference in its entirety. Rat myoblast cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat myoblast cells that may be used according to these assays include L6 cells. L6 is an adherent rat myoblast cell line, isolated from primary cultures of rat thigh muscle, that fuses to form multinucleated myotubes and striated fibers after culture in differentiation media.</p>	<p>includes a method for increasing muscle cell survival. An alternative highly preferred embodiment of the invention includes a method for decreasing muscle cell survival. A preferred embodiment of the invention includes a method for stimulating muscle cell proliferation. In a specific embodiment, skeletal muscle cell proliferation is stimulated. An alternative highly preferred embodiment of the invention includes a method for inhibiting muscle cell proliferation. In a specific embodiment, skeletal muscle cell proliferation is inhibited. A preferred embodiment of the invention includes a method for stimulating muscle cell differentiation. In a specific embodiment, skeletal muscle cell differentiation is stimulated. An alternative highly preferred embodiment of the invention includes a method for inhibiting muscle cell differentiation. In a specific embodiment, skeletal muscle cell differentiation is inhibited. Highly preferred indications include disorders of the musculoskeletal system. Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), endocrine disorders (e.g., as described below under "Endocrine Disorders"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or</p>
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				<p>blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infections (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal system including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include: myopathy, atrophy, congestive heart failure, cachexia, myxomas, fibromas, congenital cardiovascular abnormalities, heart disease, cardiac arrest, heart valve disease, and vascular disease. Highly preferred indications include neoplasms and cancer, such as, rhabdomyoma, rhabdosarcoma, stomach, esophageal, prostate, and urinary cancer. Preferred indications also include breast, lung, colon, pancreatic, brain, and liver cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for</p>
103	HDPFY18	617	<p>Production of TNF alpha by dendritic cells</p>	<p>TNFα EMAT. Assays for immunomodulatory proteins produced by activated macrophages, T cells, fibroblasts, smooth muscle, and other cell types that</p>

			<p>exert a wide variety of inflammatory and cytotoxic effects on a variety of cells are well known in the art and may be used routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate inflammation and cytotoxicity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines such as tumor necrosis factor alpha (TNFα), and the induction or inhibition of an inflammatory or cytotoxic response. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Verhaselt et al., Eur J Immunol 28(11):3886-3890 (1998); Dahlen et al., J Immunol 160(7):3585-3593 (1998); Verhaselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when</p>	<p>stimulating (e.g., increasing) TNF alpha production. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
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103	HDPFY18	617	Activation of transcription through NFkB response element in immune cells (such as T-cells).	activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities. Assays for the activation of transcription through the NFkB response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFkB transcription factors and modulate expression of immunomodulatory genes. Exemplary assays for transcription through the NFkB response element that may be used or routinely modified to test NFkB-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malin, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Gnes 15(2):105-117 (1997); and Fraser et al., 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.	Highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), and immunodeficiencies (e.g., as described below). An additional highly preferred indication is infection (e.g., AIDS, and/or an infectious disease as described below under "Infectious Disease"). Highly preferred indications include neoplastic diseases (e.g., melanoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, melanoma, renal cell carcinoma, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, suppression of immune reactions to transplanted organs, asthma and allergy.
103	HDPFY18	617	Upregulation of CD152 and activation of T cells	A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a	

			<p>proliferation. Reduced CD152 expression has been linked to hyperproliferative and autoimmune diseases. Overexpression of CD152 may lead to impaired immunoresponses. Assays for immunomodulatory proteins important in the maintenance of T cell homeostasis and expressed almost exclusively on CD4+ and CD8+ T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, maintain T cell homeostasis, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD152, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); McCoy et al., <i>Immunol Cell Biol</i> 77(1):1-10 (1999); Oosterveeg et al., <i>Curr Opin Immunol</i> 11(3):294-300 (1999); and Saito T., <i>Curr Opin Immunol</i> 10(3):313-321 (1998), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated</p>	<p>method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy. An additional preferred indication is infection (e.g., as described below under "Infectious Disease").</p>
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104	HDPGE24	618	<p>Insulin Secretion</p>	<p>using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p> <p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Shimizu, H., et al., <i>Endocr J</i>, 47(3):261-9 (2000); Salapatek, A.M., et al., <i>Mol Endocrinol</i>, 13(8):1305-17 (1999); Filipsson, K., et al., <i>Ann N Y Acad Sci</i>, 865:441-4 (1998); Olson, L.K., et al., <i>J Biol Chem</i>, 271(28):16544-52 (1996); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, neuropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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105	HDPI094	619	<p>reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATCC# CRL-1777</p> <p>Refs: Lord and Ashcroft. Biochem. J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious</p>
			<p>Assays for the regulation of transcription of Malic Enzyme are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate transcription of Malic Enzyme, a key enzyme in lipogenesis. Malic enzyme is involved in lipogenesis and its expression is stimulated by insulin. ME promoter contains two direct repeat (DR1)-like elements. MEp and MEa identified as putative PPAR response elements. ME promoter may also respond to AP1 and other transcription factors. Exemplary assays that may be used or routinely modified to test for regulation of transcription of Malic Enzyme (in hepatocytes) by polypeptides of the</p>	

105	HDPIU94	619	<p>invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Streeper, R.S., et al., <i>Mol Endocrinol</i>, 12(11):1778-91 (1998); Garcia-Jimenez, C., et al., <i>Mol Endocrinol</i>, 8(10):1361-9 (1994); Barroso, I., et al., <i>J Biol Chem</i>, 274(25):17997-8004 (1999); Jipenberg, A., et al., <i>J Biol Chem</i>, 272(32):20108-20117 (1997); Berger, et al., <i>Gene</i> 66:1-10 (1988); and, Cullen, B., et al., <i>Methods in Enzymol</i>, 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety. Hepatocytes that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary hepatocytes that may be used according to these assays includes the mouse 3T3-L1 cell line. 3T3-L1 is a mouse preadipocyte cell line (adherent). It is a continuous substrain of 3T3 fibroblasts developed through clonal isolation. Cells undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation culture conditions.</p>	<p>diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
			<p>Activation of Hepatocyte ERK Signaling Pathway</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating hepatocyte cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting hepatocyte cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating hepatocyte cell differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting hepatocyte cell differentiation. A highly preferred embodiment of the invention includes a method for activating hepatocyte cells. An alternative</p>

			<p>used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Rat liver hepatoma cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat liver hepatoma cells that may be used according to these assays include H4IIE cells, which are known to respond to glucocorticoids, insulin, or cAMP derivatives.</p>	<p>highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating hepatocyte cells. Highly preferred indications include disorders of the liver and/or endocrine disorders (e.g., as described below under "Endocrine Disorders"). Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or</p>
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105	HDPIU94	619	Regulation of proliferation and/or differentiation in immune cells (such as mast cells).	<p>complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein.</p> <p>Additional highly preferred indications include, hepatitis, jaundice, gallstones, cirrhosis of the liver, degenerative or necrotic liver disease, alcoholic liver diseases, fibrosis, liver regeneration, metabolic disease, dyslipidemia and cholesterol metabolism.</p> <p>Additional highly preferred indications include neoplasms and cancers, such as, hepatocarcinomas, other liver cancers, and colon and pancreatic cancer. Preferred indications also include prostate, breast, lung, esophageal, stomach, brain, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
			<p>Kinase assays, for example an Elk-1 kinase assay for ERK signal transduction that regulates cell proliferation or differentiation, are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Ali H, et al., J Immunol, 165(12):7215-7223 (2000);</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of asthma, allergy, hypersensitivity and inflammation.</p>

105	HDP1U94	619	Production of IFN γ using a T cells	<p>Tam SY, et al. Blood, 90(5):1807-1820 (1997); Forrer et al., Biol Chem 379(8-9):1101-1110 (1998); Berra et al., Biochem Pharmacol 60(8):1171-1178 (2000); Gupta et al., Exp Cell Res 247(2):495-504 (1999); Chang and Karin, Nature 410(6824):37-40 (2001); and Cobb MH, Prog Biophys Mol Biol 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Exemplary immune cells that may be used according to these assays include human mast cells such as the HMC-1 cell line.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease"). Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiency (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional preferred indications include idiopathic pulmonary fibrosis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred</p>
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			<p>gamma (IFNγ), and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., J Clin Lab Anal 8(5):225-233 (1995); Billiau et al., Ann NY Acad Sci 856:22-32 (1998); Boehm et al., Annu Rev Immunol 15:749-795 (1997), and Rheumatology (Oxford) 38(3):214-20 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p> <p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from</p>	<p>indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
106	HDPOC24	620	Insulin Secretion	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or</p>

				<p>pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Shimizu, H., et al., <i>Endocr J</i>, 47(3):261-9 (2000); Salapatek, A.M., et al., <i>Mol Endocrinol</i>, 13(8):1305-17 (1999); Filipsson, K., et al., <i>Am N Y Acad Sci</i>, 865:441-4 (1998); Olson, L.K., et al., <i>J Biol Chem</i>, 271(28):16544-52 (1996); and, Minglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777</p> <p>Refs: Lord and Ashcroft. <i>Biochem J</i> 219: 547-551; Santerre et al. <i>Proc. Natl. Acad. Sci. USA</i> 78: 4339-4343, 1981.</p>	<p>blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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106	HIDOC24	620	Regulation of apoptosis in pancreatic beta cells.	<p>Caspase Apoptosis: Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote caspase protease-mediated apoptosis. Apoptosis in pancreatic beta is associated with induction and progression of diabetes. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Loweth, AC, et al., FEBS Lett, 400(3):285-8 (1997); Saini, KS, et al., Biochem Mol Biol Int, 39(6):1229-36 (1996); Krauthelm, A, et al., Br J Pharmacol, 129(4):687-94 (2000); Chandra J, et al., Diabetes, 50 Suppl 1:S44-7 (2001); Suk K, et al., J Immunol, 166(7):4481-9 (2001); Tejelo J, et al., FEBS Lett, 459(2):238-43 (1999); Zhang, S, et al., FEBS Lett, 455(3):315-20 (1999); Lee et al., FEBS Lett 485(2-3): 122-126 (2000); Nor et al., J Vasc Res 37(3): 209-218 (2000); and Karsan and Hardan, J Atheroscler Thromb 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include RIN-m.</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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107	HDPOL37	621	<p>Activation of transcription through serum response element in immune cells (such as natural killer cells).</p>	<p>RIN-m is a rat adherent pancreatic beta cell insulinoma cell line derived from a radiation induced transplantable rat islet cell tumor. The cells produce and secrete islet polypeptide hormones, and produce insulin, somatostatin and possibly glucagon. ATTC: #CRL-2057 Chick et al. Proc. Natl. Acad. Sci. 1977 74:628; AF et al. Proc. Natl. Acad. Sci. 1980 77:3519.</p> <p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types.</p> <p>Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al. Gene 66:1-10 (1998); Cullen and Malm. Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example,</p>
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				publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.	hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").
108	HDPO076	622	Activation of transcription through serum response element in immune cells (such as T-cells).	Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malin, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these	A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal,

109	HDPPD93		assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.	<p>stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention includes a method for increasing adipocyte survival. An alternative highly preferred embodiment of the invention includes a method for decreasing adipocyte survival. A preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders").</p> <p>Preferred indications include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"), blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related</p>
		623	Activation of Adipocyte PI3 Kinase Signalling Pathway	<p>Kinase assay. Kinase assays, for example an GSK-3 assays, for PI3 kinase signal transduction that regulate glucose metabolism and cell survival are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit glucose metabolism and cell survival. Exemplary assays for PI3 kinase activity that may be used or routinely modified to test PI3 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Foner et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Nikoulina et al., <i>Diabetes</i> 49(2):263-271 (2000); and Schreyer et al., <i>Diabetes</i> 48(8):1662-1666 (1999), the contents of each of which are herein</p>

			<p>incorporated by reference in its entirety.</p> <p>Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p> <p>Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g. due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypersmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia,</p>
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109	HDPDP03	623	Activation of transcription through API response element in immune cells (such as T-cells).	Assays for the activation of transcription through the API response element are known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate growth and other cell functions. Exemplary assays for transcription through the API response element that may be used or routinely modified to test API-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1988); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Hendorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Kellahan et al., J Biol Chem 272(49):30806-30811 (1997); Chang et al., Mol Cell Biol 18(9):4986-4993 (1998); and Fraser et al., Eur J Immunol 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. Mouse T cells that may be used according	gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia and kidney diseases or disorders. Highly preferred indications include neoplasms and cancer, such as, lipoma, liposarcoma, lymphoma, leukemia and breast, colon, and kidney cancer. Additional highly preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic leukemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory

109	HDPD93	623	<p>Activation of transcription through API response element in immune cells (such as T-cells).</p>	<p>to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the HT2 cell line, which is an IL-2 dependent suspension culture cell line that also responds to IL-4.</p> <p>Assays for the activation of transcription through the API response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate growth and other cell functions. Exemplary assays for transcription through the API response element that may be used or routinely modified to test API-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1988); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Rellahan et al., <i>J Biol Chem</i> 272(49):30806-30811 (1997); Chang et al., <i>Mol Cell Biol</i> 18(9):4986-4993 (1998); and Fraser et al., <i>Eur J Immunol</i> 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the SUPT cell line, which is an IL-2 and IL-4 responsive suspension-</p>	<p>bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.</p>
				<p>Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.</p>	

109	HDPPD93	623	<p>Activation of transcription through CD28 response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the CD28 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate IL-2 expression in T cells. Exemplary assays for transcription through the CD28 response element that may be used or routinely modified to test CD28-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); McGuire and Iacobelli, <i>J Immunol</i> 159(3):1319-1327 (1997); Parra et al., <i>J Immunol</i> 166(4):2437-2443 (2001); and Buischer et al., <i>J Biol Chem</i> 3(1):552-560 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-2 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-2 production. Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Highly preferred indications include neoplastic diseases (e.g., melanoma, renal cell carcinoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, melanoma (e.g., metastatic melanoma), renal cell carcinoma (e.g., metastatic renal cell carcinoma), leukemia, lymphoma (e.g., T cell lymphoma), and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. A highly preferred indication includes infection (e.g., AIDS, tuberculosis, infections associated with granulomatous disease, and osteoporosis, and/or as described below under "Infectious Disease"). A highly</p>
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109	HDPPD93	623	Activation of transcription through NFAT response element in immune cells (such as T-cells).	<p>Assays for the activation of transcription through the Nuclear Factor of Activated T cells (NFAT) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFAT transcription factors and modulate expression of genes involved in immunomodulatory functions. Exemplary assays for transcription through the NFAT response element that may be used or routinely modified to test NFAT-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Serfling et al.,</p>	<p>preferred indication is AIDS. Additional highly preferred indications include suppression of immune reactions to transplanted organs and/or tissues, psoriasis, and tropical spastic paraparesis. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications also include anaemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anaemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
				<p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. An additional highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or</p>	

109	HDPPD93	623	<p>Activation of transcription through NFKB response element in immune cells (such as T-cells).</p>	<p>Biochim Biophys Acta 1498(1):1-18 (2000); De Boer et al., Int J Biochem Cell Biol 31(10):1221-1236 (1999); Fraser et al., Eur J Immunol 29(3):838-844 (1999); and Yessen et al., J Biol Chem 268(19):14285-14293 (1993), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.</p>	<p>dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
			<p>Assays for the activation of transcription through the NFKB response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFKB transcription factors and modulate expression of immunomodulatory genes. Exemplary assays for transcription through the NFKB response element that may be used or routinely modified to test NFKB-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Heathorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Gnes 15(2):105-117 (1997); and Fraser et al., 29(3):838-844 (1999), the contents of</p>	<p>Highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), and immunodeficiencies (e.g., as described below). An additional highly preferred indication is infection (e.g., AIDS, and/or an infectious disease as described below under "Infectious Disease"). Highly preferred indications include neoplastic diseases (e.g., melanoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as melanoma, renal cell carcinoma, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia,</p>	

109	HDPPD93	623	Activation of transcription through NFAT response element in immune cells (such as natural killer cells).	each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells. Assays for the activation of transcription through the Nuclear Factor of Activated T cells (NFAT) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFAT transcription factors and modulate expression of genes involved in immunomodulatory functions. Exemplary assays for transcription through the NFAT response element that may be used or routinely modified to test NFAT-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malin, Methods in Enzymol 216:362-368 (1992); Henhorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Aramburu et al., J Exp Med 182(3):801-810 (1995); De Boer et al., Int J Biochem Cell Biol 31(10):1221-1236 (1999); Fraser et al., Eur J Immunol 29(3):838-844 (1999); and Yessen et al., J Biol Chem 268(19):14285-14293 (1993), the contents of each of	thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neuroleptophilia, psoriasis, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, suppression of immune reactions to transplanted organs, asthma and allergy.
				Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. An additional highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of	

				immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.
110	HDPPQ30	624	Stimulation of insulin secretion from pancreatic beta cells.	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>

111	HDPPW82	625	Upregulation of CD71 and activation of T cells	<p>according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. Endocrinology 1992; 130:167.</p> <p>CD71 FMAT: CD71 is the transferrin receptor. Transferrin is a major iron carrying protein that is essential for cell proliferation. CD71 is expressed predominantly on cells that are actively proliferating. Assays for immunomodulatory proteins expressed on activated T cells, B cells, and most proliferating cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD71, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include infection. Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include</p>
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				<p>example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Aferra et al., Ann Rheum Dis 52(6):457-460 (1993), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
112	HDPXN20	626	Production of MIP1alpha	<p>MIP-1alpha FMAT. Assays for immunomodulatory proteins produced by activated dendritic cells that upregulate monocyte/macrophage and T cell chemotaxis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate chemotaxis, and modulate T cell differentiation. Exemplary assays that test for immunomodulatory proteins evaluate the production of chemokines, such as macrophage inflammatory protein 1 alpha (MIP-1a), and the activation of monocytes/macrophages and T cells. Such assays that may be used or routinely modified to test immunomodulatory and</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating MIP1a production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MIP1a production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS,</p>

chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Eremin, J R Coll Surg Ednb 45(1):9-19 (2001); Drakes et al., Transp Immunol 8(1):17-29 (2000); Verhaselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.	Production of IFN γ using a T cells	626	<p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease"). Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below).</p>
chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Eremin, J R Coll Surg Ednb 45(1):9-19 (2001); Drakes et al., Transp Immunol 8(1):17-29 (2000); Verhaselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.	Production of IFN γ using a T cells	626	<p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease"). Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below).</p>

				<p>immunodeficiency (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional preferred indications include idiopathic pulmonary fibrosis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
			<p>invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, regulate inflammatory activities, modulate TH2 helper cell function, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as Interferon gamma (IFNγ), and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., J Clin Lab Anal 8(5):225-233 (1995); Billiau et al., Ann NY Acad Sci 856:22-32 (1998); Boehm et al., Annu Rev Immunol 15:749-795 (1997), and Rheumatology (Oxford) 38(3):214-20 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	

113	HDOHM36	627	Insulin Secretion	<p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Shimizu, H., et al., <i>Endocr J</i>, 47(3):261-9 (2000); Salapatek, A.M., et al., <i>Mol Endocrinol</i>, 13(8):1305-17 (1999); Filipsson, K., et al., <i>Ann N Y Acad Sci</i>, 865:441-4 (1998); Olson, L.K., et al., <i>J Biol Chem</i>, 271(28):16544-52 (1996); and, Minglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40.</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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114	HD7AU35	628	Production of IL-6	<p>These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777 Refs: Lord and Ashcroft. Biochem. J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.</p> <p>IL-6 FMAT. IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases. Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer.</p>
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114	HDTAU35	628	Production of MIP1alpha	<p>differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhasselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>MIP-1alpha FMAT. Assays for immunomodulatory proteins produced by activated dendritic cells that upregulate monocyte/macrophage and T cell chemotaxis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate chemotaxis, and modulate T cell differentiation. Exemplary assays that test for immunomodulatory proteins evaluate the production of chemokines, such as macrophage inflammatory protein 1 alpha (MIP-1a), and the activation of monocytes/macrophages and T cells. Such assays that may be used or routinely</p>	<p>Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
				<p>A highly preferred embodiment of the invention includes a method for stimulating MIP1a production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MIP1a production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple</p>	

114	HD1AU35	628	Production of TNF alpha by dendritic cells	<p>modified to test immunomodulatory and chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Erenin, J R Coll Surg Ednb 45(1):9-19 (2001); Drakes et al., Transp Immunol 8(1):17-29 (2000); Verhasselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
			<p>TNFα EMAT. Assays for immunomodulatory proteins produced by activated macrophages, T cells, fibroblasts, smooth muscle, and other cell types that exert a wide variety of inflammatory and cytotoxic effects on a variety of cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate inflammation and cytotoxicity. Exemplary</p>	<p>A highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and</p>	

			<p>assays that test for immunomodulatory proteins evaluate the production of cytokines such as tumor necrosis factor alpha (TNFα), and the induction or inhibition of an inflammatory or cytotoxic response. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Verhasselt et al., <i>Eur J Immunol</i> 28(11):3886-3890 (1998); Dahlen et al., <i>J Immunol</i> 160(7):3585-3593 (1998); Verhasselt et al., <i>J Immunol</i> 158:2919-2925 (1997); and Nardelli et al., <i>J Leukoc Biol</i> 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
115	HD1AV54	629	<p>TNFα FMA1. Assays for immunomodulatory proteins produced by activated macrophages, T cells, fibroblasts, smooth muscle, and other cell types that exert a wide variety of inflammatory and cytotoxic effects on a variety of cells are</p>	<p>A highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Highly preferred indications include blood disorders (e.g.,</p>

				<p>well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate inflammation and cytotoxicity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines such as tumor necrosis factor alpha (TNFα), and the induction or inhibition of an inflammatory or cytotoxic response. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Verhasselt et al., Eur J Immunol 28(11):3886-3890 (1998); Dahlen et al., J Immunol 160(7):3585-5593 (1998); Verhasselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation</p>	<p>as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neuropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
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116	HDTX18	630	<p>Activation of Adipocyte ERK Signaling Pathway</p>	<p>and functional activities:</p> <p>Kinase assay. Kinase assays, for example an Erk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brusel Y, <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"). Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease,</p>
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			differentiation conditions known in the art.	stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypersmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.
117	HDTGW48	631	Assays for the activation of transcription through the NFkB response element are	Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or

118	HD1M18	632	Production of MIP1alpha	<p>well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFKB transcription factors and modulate expression of immunomodulatory genes. Exemplary assays for transcription through the NFKB response element that may be used or routinely modified to test NFKB-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Gri G, et al., <i>Biol Chem</i>, 273(11):6431-6438 (1998); Pyatt DW, et al., <i>Cell Biol Toxicol</i> 2000;16(1):41-51 (2000); Berger et al., <i>Gene</i> 661-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Valle Blazquez et al., <i>Immunology</i> 90(3):455-460 (1997); Aramburu et al., <i>J Exp Med</i> 82(3):801-810 (1995); and Fraser et al., 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. Immune cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary immune cells that may be used according to these assays include the Reh B-cell line.</p>	<p>antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Cancer, Autoimmunity, Allergy and Asthma</p>
			<p>Production of MIP1alpha</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating MIP1a production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MIP1a production. A highly preferred indication is infection</p>	

			<p>may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate chemotaxis, and modulate T cell differentiation. Exemplary assays that test for immunomodulatory proteins evaluate the production of chemokines, such as macrophage inflammatory protein 1 alpha (MIP-1a), and the activation of monocytes/macrophages and T cells. Such assays that may be used or routinely modified to test immunomodulatory and chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Eremin, J R Coll Surg Ednb 45(1):9-19 (2001); Drakes et al., Transp Immunol 8(1):17-29 (2000); Verhasselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>(e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
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119	HE2CA60	633	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and</p>
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119	HE2CA60	633	Production of IL-4	<p>IL-4 FMAT. Assays for immunomodulatory proteins secreted by TH2 cells that stimulate B cells, T cells, macrophages and mast cells and promote polarization of CD4+ cells into TH2 cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, stimulate immune cells, modulate immune cell polarization, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-4, and the stimulation of immune cells, such as B cells, T cells, macrophages and mast cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., J Clin Lab Anal 8(5):277-283 (1994); Yssel et al., Res Immunol 144(8):610-616 (1993); Bagley et al., Nat Immunol 1(3):257-261 (2000); and van der Graaff et al., Rheumatology (Oxford) 38(3):214-220 (1999), the contents of each of which are herein incorporated by</p>	<p>asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-4 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-4 production. A highly preferred indication includes asthma. A highly preferred indication includes allergy. A highly preferred indication includes rhinitis. Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus,</p>
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				reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.	endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").
120	HE2CA60	634	Activation of transcription through serum response element in immune cells (such as T-cells).	Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henikoff et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that	A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g. as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and

				may be used according to these assays include the CTL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.	<p>pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
120	HE2CA60	634	Production of IL-4	IL-4 FMA1. Assays for immunomodulatory proteins secreted by TH2 cells that stimulate B cells, T cells, macrophages and mast cells and promote polarization of CD4+ cells into TH2 cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, stimulate immune cells, modulate immune cell polarization, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-4, and the stimulation of immune cells, such as B cells, T cells, macrophages and mast cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the	<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-4 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-4 production. A highly preferred indication includes asthma. A highly preferred indication includes rhinitis. Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include</p>

			assays disclosed in Miraglia et al., J Biomolecular Screening 4:195-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., J Clin Lab Anal 8(5):277-283 (1994); Yssel et al., Res Immunol 144(8):610-616 (1993); Bagley et al., Nat Immunol 1(3):257-261 (2000); and van der Graaf et al., Rheumatology (Oxford) 38(3):214-220 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.	autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").
121	HE2CH58	635	Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention	Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Cancer, Wound Healing, and Inflammation. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include inflammation and inflammatory disorders.

122	HE2CM39	636	Regulation of transcription via DMEF1 response element in adipocytes and pre-adipocytes	<p>(including antibodies and agonists or antagonists of the invention) include assays disclosed in: You M, et al, <i>J Biol Chem</i>, 272(37):23376-23381(1997); Min W, et al., <i>Circ Res</i>, 83(8):815-823 (1998); Berger et al., <i>Gene</i> 661-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Matikainen et al., <i>Blood</i> 93(6):1980-1991 (1999); and Hentinen et al., <i>J Immunol</i> 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Epithelial cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary epithelial cells that may be used according to these assays include the HELA cell line.</p> <p>Assays for the regulation of transcription through the DMEF1 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to activate the DMEF1 response element in a reporter construct (such as that containing the GLUT4 promoter) and to regulate insulin production. The DMEF1 response element is present in the GLUT4 promoter and binds to MEF2 transcription factor and another transcription factor that is required for insulin regulation of Glut4 expression in skeletal muscle. GLUT4 is the primary insulin-responsive glucose transporter in fat and muscle tissue. Exemplary assays</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and</p>
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			<p>that may be used or routinely modified to test for DMEF1 response element activity (in adipocytes and pre-adipocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Thai, M.V., et al., J Biol Chem, 273(23):14285-92 (1998); Mora, S., et al., J Biol Chem, 275(21):16323-8 (2000); Liu, M.L., et al., J Biol Chem, 269(45):28514-21 (1994); "Identification of a 30-base pair regulatory element and novel DNA binding protein that regulates the human GLUT4 promoter in transgenic mice", J Biol Chem, 2000 Aug 4:275(31):23666-73; Berger, et al., Gene 66:1-10 (1988); and, Cullen, B., et al., Methods in Enzymol. 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety. Adipocytes and pre-adipocytes that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include the mouse 3T3-L1 cell line which is an adherent mouse preadipocyte cell line. Mouse 3T3-L1 cells are a continuous substrain of 3T3 fibroblasts developed through clonal isolation. These cells undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation culture conditions.</p>	<p>impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
123	HE2HC60	637	<p>Activation of Skeletal Muscle Cell P13 Kinase Signalling Pathway</p>	<p>A highly preferred embodiment of the invention includes a method for increasing muscle cell survival. An alternative highly preferred embodiment of the invention includes a method for decreasing muscle cell survival.</p>

				<p>known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit glucose metabolism and cell survival. Exemplary assays for PI3 kinase activity that may be used or routinely modified to test PI3 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Nikoulina et al., <i>Diabetes</i> 49(2):263-271 (2000); and Schreyer et al., <i>Diabetes</i> 48(8):1662-1666 (1999), the contents of each of which are herein incorporated by reference in its entirety. Rat myoblast cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat myoblast cells that may be used according to these assays include L6 cells. L6 is an adherent rat myoblast cell line, isolated from primary cultures of rat thigh muscle, that fuses to form multinucleated myotubes and striated fibers after culture in differentiation media.</p>	<p>A preferred embodiment of the invention includes a method for stimulating muscle cell proliferation. In a specific embodiment, skeletal muscle cell proliferation is stimulated. An alternative highly preferred embodiment of the invention includes a method for inhibiting muscle cell proliferation. In a specific embodiment, skeletal muscle cell proliferation is inhibited. A preferred embodiment of the invention includes a method for stimulating muscle cell differentiation. In a specific embodiment, skeletal muscle cell differentiation is stimulated. An alternative highly preferred embodiment of the invention includes a method for inhibiting muscle cell differentiation. In a specific embodiment, skeletal muscle cell differentiation is inhibited. Highly preferred indications include disorders of the musculoskeletal system. Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), endocrine disorders (e.g., as described below under "Endocrine Disorders"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), and infection (e.g., as described below under "Infectious Diseases"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease,</p>
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				<p>atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infections (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal system including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include: myopathy, atrophy, congestive heart failure, cachexia, myxomas, fibromas, congenital cardiovascular abnormalities, heart disease, cardiac arrest, heart valve disease, and vascular disease. Highly preferred indications include neoplasms and cancer, such as, rhabdomyoma, rhabdosarcoma, stomach, esophageal, prostate, and urinary cancer. Preferred indications also include breast, lung, colon, pancreatic, brain, and liver cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred embodiment of the invention includes a method for increasing adipocyte survival. An alternative highly preferred embodiment of the invention includes a method for decreasing adipocyte survival. A preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a</p>
124	HE2PO93	638	<p>Activation of Adipocyte PI3 Kinase Signaling Pathway</p>	<p>Kinase assay. Kinase assays, for example an GSK-3 assays, for PI3 kinase signal transduction that regulate glucose metabolism and cell survival are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including</p>

				<p>antibodies and agonists or antagonists of the invention) to promote or inhibit glucose metabolism and cell survival. Exemplary assays for PI3 kinase activity that may be used or routinely modified to test PI3 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Forrer et al. <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Nikoulina et al., <i>Diabetes</i> 49(2):263-271 (2000); and Schreyer et al., <i>Diabetes</i> 48(8):1662-1666 (1999), the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p> <p>Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>method for inhibiting adipocyte proliferation. A preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders").</p> <p>Preferred indications include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"), blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity").</p> <p>"Cardiovascular Disorders", and/or "Blood-Related Disorders", immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection</p>
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				<p>(e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p> <p>Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein.</p> <p>Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Highly preferred indications include neoplasms and cancer, such as, lipoma, liposarcoma, lymphoma, leukemia and breast, colon, and kidney cancer. Additional highly preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated</p>
124	HE2P093	638	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE</p>	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>

125	HE6AU52	639	Activation of transcription through cAMP response element in immune cells (such as T-cells).	<p>Assays for the activation of transcription through the cAMP response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to increase cAMP and regulate CREB transcription factors, and modulate expression of genes involved in a</p>	<p>activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malin, Methods in Enzymol 216:362-368 (1992); Henhorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g. malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune</p>
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125	HE6AU52	639	Production of IL-6	<p>wide variety of cell functions. Exemplary assays for transcription through the cAMP response element that may be used or routinely modified to test cAMP-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Genes 15(2):105-117 (1997); and Belkowski et al., J Immunol 161(2):659-665 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>	<p>response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkin's lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
				<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus,</p>	

125	HE6AU52	639	Production of TNF alpha by dendritic cells	<p>cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verbaesselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>TNPa FMAAT. Assays for immunomodulatory proteins produced by activated macrophages, T cells, fibroblasts,</p>	<p>multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response. Highly preferred B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) TNF alpha production. An alternative highly preferred</p>
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			<p>smooth muscle, and other cell types that exert a wide variety of inflammatory and cytotoxic effects on a variety of cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate inflammation and cytotoxicity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines such as tumor necrosis factor alpha (TNFα), and the induction or inhibition of an inflammatory or cytotoxic response. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Verhaselt et al., Eur J Immunol 28(11):3886-3890 (1998); Dahlen et al., J Immunol 160(7):3385-3593 (1998); Verhaselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells</p>	<p>embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious</p>
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126	HEGCS65	640	Production of IL-6	<p>in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>IL-6 FMA1: IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases.</p> <p>Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function.</p> <p>Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities.</p> <p>Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193.</p>	<p>Disease").</p> <p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer.</p> <p>Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute</p>
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126	HEKCS65	640	Production of MCP-1	<p>204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhaselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>MCP-1 PMAT. Assays for immunomodulatory proteins that are produced by a large variety of cells and act to induce chemotaxis and activation of monocytes and T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, induce chemotaxis, and modulate immune cell activation. Exemplary assays that test for immunomodulatory proteins evaluate the production of cell surface markers, such as monocyte chemoattractant protein (MCP), and the activation of monocytes and T cells. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include</p>	<p>lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
				<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) MCP-1 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MCP-1 production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes</p>	

127	HEGO92	641	Production of MIP1alpha	<p>assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Eremin, J R Coll Surg Edinb 45(1):9-19 (2001); and Verhasselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>MIP-1alpha FMAXT. Assays for immunomodulatory proteins produced by activated dendritic cells that upregulate monocyte/macrophage and T cell chemotaxis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate chemotaxis, and modulate T cell differentiation. Exemplary assays that test for immunomodulatory proteins evaluate the production of chemokines, such as macrophage inflammatory protein 1 alpha (MIP-1a), and the activation of monocytes/macrophages and T cells. Such assays that may be used or routinely modified to test immunomodulatory and</p>	<p>mellitus, endocarditis, meningitis (bacterial and viral), Lyme Disease, asthma, and allergy Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
				<p>A highly preferred embodiment of the invention includes a method for stimulating MIP1a production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MIP1a production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS.</p>	

			chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Brenin, J R Coll Surg Ednb 45(1):9-19 (2001); Drakes et al., Transp Immunol 8(1):17-29 (2000); Verhasselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.	granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.
128	HEGEY13	642	Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element	Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described

129	HEG1U1	643	<p>activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henhorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Mäkitäinen et al., Blood 93(6):1980-1991 (1999); and Henttinen et al., J Immunol 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the SUPT cell line, that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
			<p>Caspase Apoptosis Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote caspase protease-mediated apoptosis. Apoptosis in pancreatic beta is associated with induction and progression of diabetes. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypotension, coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia,</p>

				assays disclosed in: Loweth, AC, et al., FEBS Lett. 400(3):285-8 (1997); Saini, KS, et al., Biochem Mol Biol Int. 39(6):1229-36 (1996); Krauthelm, A., et al., Br J Pharmacol. 129(4):687-94 (2000); Chandra J, et al., Diabetes, 50 Suppl 1:S44-7 (2001); Suk K, et al., J Immunol, 166(7):4481-9 (2001); Tejedo J, et al., FEBS Lett. 459(2):238-43 (1999); Zhang, S., et al., FEBS Lett. 455(3):315-20 (1999); Lee et al., FEBS Lett 485(2-3): 122-126 (2000); Nor et al., J Vasc Res 37(3): 209-218 (2000); and Karsan and Harlan, J Altheroscler Thromb 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include RIN-m. RIN-m is a rat adherent pancreatic beta cell insulinoma cell line derived from a radiation induced transplantable rat islet cell tumor. The cells produce and secrete islet polypeptide hormones, and produce insulin, somatostatin, and possibly glucagon. ATCC: #CRL-2057 Chick et al. Proc. Natl. Acad. Sci. 1977 74:628; AF et al. Proc. Natl. Acad. Sci. 1980 77:3519.	endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.
130	HE6FV29	644	Endothelial Cell Apoptosis	Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and	A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the

			<p>agonists or antagonists of the invention) to promote caspase protease-mediated apoptosis. Induction of apoptosis in endothelial cells supporting the vasculature of tumors is associated with tumor regression due to loss of tumor blood supply. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Lee et al., FEBS Lett 485(2-3): 122-126 (2000); Nor et al., J Vasc Res 37(3): 209-218 (2000); and Karsan and Harlan, J Atheroscler Thromb 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary endothelial cells that may be used according to these assays include bovine aortic endothelial cells (bAEC), which are an example of endothelial cells which line blood vessels and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal</p>
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				<p>disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangioepithelioma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, restenosis, venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment/prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic</p>
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130	HEpFV29	644	Stimulation of Calcium Flux in pancreatic beta cells.	<p>Assays for measuring calcium flux are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mobilize calcium. For example, the FLPR assay may be used to measure influx of calcium. Cells normally have very low concentrations of cytosolic calcium compared to much higher extracellular calcium. Extracellular factors can cause an influx of calcium, leading to activation of calcium responsive signaling pathways and alterations in cell functions. Exemplary assays that may be used or routinely modified to measure calcium flux by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Satin LS, et al., <i>Endocrinology</i>, 136(10):4589-601 (1995); Mogami H, et al., <i>Endocrinology</i>, 136(7):2960-6 (1995); Richardson SB, et al., <i>Biochem J</i>, 288 (Pt 3):847-51 (1992); and, Meats, JE, et al., <i>Cell Calcium</i> 1989 Nov-Dec;10(8):535-41 (1989), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary</p>	<p>lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p> <p>A highly preferred indication is diabetes mellitus.</p> <p>An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture).</p> <p>An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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131	HERFC45	645	Upregulation of CD152 and activation of T cells	<p>pancreatic cells that may be used according to these assays include HIT115 cells. HIT115 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SY40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777. Refs: Lord and Ashcroft. Biochem. J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78:4339-4343, 1981.</p> <p>CD152 FMAT. CD152 (a.k.a. CTLA-4) expression is restricted to activated T cells. CD152 is a negative regulator of T cell proliferation. Reduced CD152 expression has been linked to hyperproliferative and autoimmune diseases. Overexpression of CD152 may lead to impaired immunoresponses. Assays for immunomodulatory proteins important in the maintenance of T cell homeostasis and expressed almost exclusively on CD4+ and CD8+ T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, maintain T cell homeostasis, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD152, and the activation of T cells. Such assays that may be used or routinely</p>	<p>A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer.</p>
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132	HE8FC45	646	<p>modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach", Chapter 6:138-160 (2000); McCoy et al., Immunol Cell Biol 77(1):1-10 (1999); Oosterveg et al., Curr Opin Immunol 11(3):294-300 (1999); and Saito T, Curr Opin Immunol 10(3):313-321 (1998), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, inflammation and encephalitis, inflammatory disorders, and asthma and allergy. An additional preferred indication is infection (e.g., as described below under "Infectious Disease").</p>
				<p>A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications</p>

			<p>may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, maintain T cell homeostasis, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD152, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); McCoy et al., <i>Immunol Cell Biol</i> 77(1):1-10 (1999); Oostervegal et al., <i>Curr Opin Immunol</i> 11(3):294-300 (1999); and Saito T, <i>Curr Opin Immunol</i> 10(3):313-321 (1998), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy. An additional preferred indication is infection (e.g., as described below under "Infectious Disease").</p>
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133	HESFD92	647	<p>Stimulation of insulin secretion from pancreatic beta cells.</p>	<p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., <i>Am J Physiol</i>, 277(d Pt 2):R959-66 (1999); Li, M., et al., <i>Endocrinology</i>, 138(9):3735-40 (1997); Kim, K. H., et al., <i>FEBS Lett</i>, 377(2):237-9 (1995); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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134	HE8FD92	648	<p>Stimulation of insulin secretion from pancreatic beta cells.</p>	<p>characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. <i>Endocrinology</i> 1992 130:167.</p> <p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., <i>Am J Physiol</i>, 277(4 Pt 2):R959-66 (1999); Li, M., et al., <i>Endocrinology</i>, 138(9):3735-40 (1997); Kim, K.H., et al., <i>FEBS Lett</i>, 377(2):237-9 (1995); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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135	HE8FD92	649	<p>cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. <i>Endocrinology</i> 1992; 130:167.</p> <p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., <i>Am J Physiol</i>, 277(4 Pt 2):R959-66 (1999); Li, M., et al., <i>Endocrinology</i>, 138(9):3735-40 (1997); Kim, K.H., et al., <i>FEBS Lett</i>, 377(2):237-9 (1995); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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136	HESFD92	650	<p>Stimulation of insulin secretion from pancreatic beta cells.</p>	<p>available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. Endocrinology. 1992; 130:167.</p> <p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAI using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., <i>Am J Physiol</i>, 277(4 Pt 2):R959-66 (1999); Li, M., et al., <i>Endocrinology</i>, 138(9):3735-40 (1997); Kim, K.H., et al., <i>FEBS Lett</i>, 377(2):237-9 (1995); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include</p>
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137	HESFD92	651	<p>Stimulation of insulin secretion from pancreatic beta cells.</p>	<p>(1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. <i>Endocrinology</i> 1992 130:167.</p>	<p>weight loss or alternatively, weight gain. highly preferred indications are complications associated with insulin resistance.</p>	<p>Additional</p>
			<p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., <i>Am J Physiol</i>, 277(4 Pt 2):R959-66 (1999); Li, M., et al.,</p>	<p>An additional highly preferred indication is diabetes mellitus. Associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and</p>		

138	HERSC96	652	<p>Endocrinology, 138(9):3735-40 (1997); Kim, K.H., et al., <i>FEBS Lett.</i> 377(2):237-9 (1995); and: Mraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. <i>Endocrinology</i> 1992 130:167.</p>	<p>skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
			<p>Assays for measuring expression of ICAM-1 are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate ICAM-1 expression. Exemplary assays that may be used or routinely modified to measure ICAM-1 expression include assays disclosed in: Rolfe BL, et al., <i>Atherosclerosis</i>, 149(1):99-110 (2000); Panettieri RA Jr, et al., <i>J Immunol</i>, 154(5):2358-2365 (1995); and, Grunstein MM, et al., <i>Am J Physiol Lung Cell Mol Physiol</i>, 278(6):L1154-L1163 (2000), the contents of each of which is herein incorporated by reference in its entirety.</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Vascular Disease, Atherosclerosis, Restenosis, Stroke, and Asthma.</p>

139	HESTY46	653	<p>Activation of Hepatocyte ERK Signaling Pathway</p>	<p>Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include Aortic Smooth Muscle Cells (AOSMC); such as bovine AOSMC.</p> <p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Rat liver hepatoma cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat liver hepatoma cells that may be used according to these assays include H4IIE cells, which are known to respond to glucocorticoids.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating hepatocyte cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting hepatocyte cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating hepatocyte cell differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting hepatocyte cell differentiation. A highly preferred embodiment of the invention includes a method for activating hepatocyte cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating hepatocyte cells. Highly preferred indications include disorders of the liver and/or endocrine disorders (e.g., as described below under "Endocrine Disorders").</p> <p>Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal</p>
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				<p>insulin, or cAMP derivatives.</p> <p>Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein.</p> <p>Additional highly preferred indications include, hepatitis, jaundice, gallstones, cirrhosis of the liver, degenerative or necrotic liver disease, alcoholic liver diseases, fibrosis, liver regeneration, metabolic disease, dyslipidemia and cholesterol metabolism. Additional highly preferred indications include neoplasms and cancers, such as, hepatocarcinomas, other liver cancers, and colon and pancreatic cancer. Preferred indications also include prostate, breast, lung, esophageal, stomach, brain, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or</p>
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140	HEECY05	654	<p>Activation of transcription through GATA-3 response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the GATA3 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate GATA3 transcription factors and modulate expression of genes important for Th2 immune response development.</p> <p>Exemplary assays for transcription through the GATA3 response element that may be used or routinely modified to test GATA3-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Flavell et al., Cold Spring Harb Symp Quant Biol 64:563-571 (1999); Rodriguez-Palmero et al., Eur J Immunol 29(12):3914-3924 (1999); Zheng and Flavell, Cell 89(4):587-596 (1997); and Henderson et al., Mol Cell Biol 14(6):4286-4294 (1994), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the HT2 cell line, which is a suspension culture of IL-2 dependent T cells that also respond to IL-4.</p>	<p>dysplasia. A highly preferred indication includes allergy. A highly preferred indication includes asthma. A highly preferred indication includes rheinitis. Additional highly preferred indications include infection (e.g., an infectious disease as described below under "Infectious Disease"), and inflammation and inflammatory disorders.</p> <p>Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below).</p> <p>Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancer, such as for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease.</p>
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141	HE9EA10	655	<p>Regulation of viability and proliferation of pancreatic beta cells.</p>	<p>Assays for the regulation of viability and proliferation of cells in vitro are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate viability and proliferation of pancreatic beta cells. For example, the Cell Titer-Glo luminescent cell viability assay measures the number of viable cells in culture based on quantitation of the ATP present which signals the presence of metabolically active cells. Exemplary assays that may be used or routinely modified to test regulation of viability and proliferation of pancreatic beta cells by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Friedrichsen BN, et al., <i>Mol Endocrinol</i>, 15(1):136-48 (2001); Huotari MA, et al., <i>Endocrinology</i>, 139(4):1494-9 (1998); Hugi SR, et al., <i>J Biol Chem</i> 1998 Jul 10;273(28):17771-9 (1998), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinhoma. These cells retain characteristics typical of native pancreatic</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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142	HE9GG20	656	Production of ICAM-1	<p>beta cells including glucose inducible insulin secretion. References: Asfari et al. Endocrinology. 1992;130:167.</p> <p>Assays for measuring expression of ICAM-1 are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate ICAM-1 expression. Exemplary assays that may be used or routinely modified to measure ICAM-1 expression include assays disclosed in: Takacs P, et al, FASEB J, 15(2):279-281 (2001); and, Miyamoto K, et al., Am J Pathol, 156(5):1733-1739 (2000), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include microvascular endothelial cells (MVEC).</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Inflammation, Vascular Disease, Atherosclerosis, Restenosis, and Stroke</p>
143	HEBC118	657	Activation of transcription through NFAT response element in immune cells (such as T-cells).	<p>Assays for the activation of transcription through the Nuclear Factor of Activated T cells (NFAT) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFAT transcription factors and modulate expression of genes involved in immunomodulatory functions. Exemplary assays for transcription through the NFAT response element that may be used or</p>	<p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. An additional highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>

144	HEBCY54	658	<p>Regulation of transcription through the FAS promoter element in hepatocytes</p>	<p>routinely modified to test NFAT-response element activity of polypeptides and invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malin, Methods in Enzymol 21(6362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Serfling et al., Biochim Biophys Acta 1498(1):1-18 (2000); De Boer et al., Int J Biochem Cell Biol 31(10):1221-1236 (1999); Fraser et al., Eur J Immunol 29(3):838-844 (1999); and Yeseen et al., J Biol Chem 268(19):14285-14293 (1993), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.</p>	<p>Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension,</p>
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145	HEBD77	659	Activation of transcription through serum response element in immune cells (such as T-cells).	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test for FAS promoter element activity (in hepatocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Xiong, S., et al., <i>Proc Natl Acad Sci U.S.A.</i>, 97(8):3948-53 (2000); Rodier, K., et al., <i>Eur J Biochem</i>, 260(3):743-51 (1999); Oskouian B. et al., <i>Biochem J</i>, 317 (Pt 1):257-65 (1996); Berger, et al., <i>Gene</i>, 66:1-10 (1988); and, Cullen, B., et al., <i>Methods in Enzymol.</i> 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety. Hepatocytes that may be used according to these assays, such as H4IIE cells, are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary hepatocytes that may be used according to these assays include rat liver hepatoma cell line(s) inducible with glucocorticoids, insulin, or cAMP derivatives.</p>	<p>stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
				<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative, preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies</p>	

146	HEBDQ91	660	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate</p>	<p>used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>(e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF-alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF-alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications</p>
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			the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Hendhorn et al., Proc Natl Acad Sci USA, 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.	include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below, under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Diseases").
146	HEBDQ91	660	Assays for the activation of transcription through the CD28 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including	A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. A highly preferred embodiment of the invention includes a

			<p>antibodies and agonists or antagonists of the invention) to stimulate IL-2 expression in T cells. Exemplary assays for transcription through the CD28 response element that may be used or routinely modified to test CD28-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Hendorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); McGuire and Iacobelli, <i>J Immunol</i> 159(3):1319-1327 (1997); Parra et al., <i>J Immunol</i> 166(4):2437-2443 (2001); and Bauscher et al., <i>J Biol Chem</i> 3(1):552-560 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.</p>	<p>method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-2 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-2 production. Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Highly preferred indications include neoplastic diseases (e.g., melanoma, renal cell carcinoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, melanoma (e.g., metastatic melanoma), renal cell carcinoma (e.g., metastatic renal cell carcinoma), leukemia, lymphoma (e.g., T cell lymphoma), and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. A highly preferred indication includes infection (e.g., AIDS, tuberculosis, infections associated with granulomatous disease, and osteoporosis, and/or as described below under "Infectious Disease"). A highly preferred indication is AIDS. Additional highly preferred indications include suppression of immune reactions to transplanted organs and/or tissues, uveitis, psoriasis, and tropical spastic paraparesis. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or</p>
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147	HEBR46	661	Stimulation of insulin secretion from pancreatic beta cells.	<p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., <i>Am J Physiol</i>, 277/4 Pt 2:R959-66 (1999); Li, M., et al., <i>Endocrinology</i>, 138(9):3735-40 (1997); Kim, K.H., et al., <i>FEBS Lett</i>, 377(2):237-9 (1995); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used</p>	<p>"Cardiovascular Disorders"). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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147	HEBFR46	661	<p>Activation of transcription through AP1 response element in immune cells (such as T-cells).</p>	<p>according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. <i>Endocrinology</i> 1992, 130:167.</p> <p>Assays for the activation of transcription through the AP1 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate growth and other cell functions. Exemplary assays for transcription through the AP1 response element that may be used or routinely modified to test AP1-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1988); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Rellahan et al., <i>J Biol Chem</i> 272(49):30806-30811 (1997); Chang et al., <i>Mol Cell Biol</i> 18(9):4986-4993 (1998); and Fraser et al., <i>Eur J Immunol</i> 29(3):838-844 (1999), the contents of each of which are herein</p>	<p>Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic</p>
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147	HEBFR46	661	Activation of transcription through CD28 response element in immune cells (such as T-cells).	<p>incorporated by reference in its entirety. Human T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the SUPT cell line, which is an IL-2 and IL-4 responsive suspension-culture cell line.</p> <p>Assays for the activation of transcription through the CD28 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate IL-2 expression in T cells. Exemplary assays for transcription through the CD28 response element that may be used or routinely modified to test CD28-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malin, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); McGuire and Jacobelli, <i>J Immunol</i> 159(3):1319-1327 (1997); Parra et al., <i>J Immunol</i> 166(4):2437-2443 (2001); and Butcher et al., <i>J Biol Chem</i> 3(1):552-560 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays</p>	<p>anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.</p>
				<p>A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-2 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-2 production. Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Highly preferred indications include neoplastic diseases (e.g., melanoma, renal cell carcinoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, melanoma (e.g., metastatic melanoma), renal cell carcinoma (e.g., metastatic renal cell carcinoma), leukemia, lymphoma (e.g., T cell lymphoma), and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary</p>	

				include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.	<p>cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. A highly preferred indication includes infection (e.g., AIDS, tuberculosis, infections associated with granulomatous disease, and osteoporosis, and/or as described below under "Infectious Disease"). A highly preferred indication is AIDS. Additional highly preferred indications include suppression of immune reactions to transplanted organs and/or tissues, uveitis, psoriasis, and tropical spastic paraparesis. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
147	HEBR46	661	Activation of transcription through NFAT response element in immune cells (such as T-cells).	Assays for the activation of transcription through the Nuclear Factor of Activated T cells (NFAT) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFAT transcription factors and modulate expression of genes involved in immunomodulatory functions. Exemplary assays for transcription through the NFAT response element that may be used or routinely modified to test NFAT-response element activity of polypeptides of the	<p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. An additional highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under</p>

				invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Serfling et al., Biochim Biophys Acta 1498(1):1-18 (2000); De Boer et al., Int J Biochem Cell Biol 31(10):1221-1236 (1999); Fraser et al., Eur J Immunol 29(3):838-844 (1999); and Yessen et al., J Biol Chem 268(19):14285-14293 (1993), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.	"Hyperproliferative Disorders"), Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.
147	HEBFR46	661	Activation of transcription through STAT6 response element in immune cells (such as T-cells).	Assays for the activation of transcription through the Signal Transducers and Activators of Transcription (STAT6) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT6 transcription factors and modulate the expression of multiple genes. Exemplary assays for transcription through the STAT6 response element that may be used or routinely modified to test STAT6 response element activity of the polypeptides of the invention (including	A highly preferred indication is allergy. Another highly preferred indication is asthma. Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as,

			antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Georas et al., Blood 92(12):4529-4538 (1998); Moffatt et al., Transplantation 69(7):1521-1523 (2000); Currel et al., Eur J Immunol 27(8):1982-1987 (1997); and Masuda et al., J Biol Chem 275(38):29331-29337 (2000), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.	leukemia, lymphoma, melanoma, stomach, breast, lung, colon, pancreatic, esophageal, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").
147	HEBFR-46	661	Activation of transcription through NFKB response element in immune cells (such as T-cells).	Highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), and immunodeficiencies (e.g., as described below). An additional highly preferred indication is infection (e.g., AIDS, and/or an infectious disease as described below under "Infectious Disease"). Highly preferred indications include neoplastic diseases (e.g., melanoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, melanoma, renal cell carcinoma, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal,

148	HEBGE07	662	Activation of transcription through GAS response element in immune cells (such as T cells).	<p>Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Matikainen et al., Blood 93(6):1980-1991 (1999); and</p>	<p>Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Gnes 15(2):105-117 (1997); and Fraser et al., 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.</p>	<p>stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neuropenia, neurophilia, psoriasis, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, suppression of immune reactions to transplanted organs, asthma and allergy.</p>
				<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic</p>		

Henttinen et al., <i>J Immunol</i> 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary mouse T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the CTLL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.	Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., <i>Am J Physiol</i> , 277(4 Pt 2):R959-66 (1999); Li, M., et al., <i>Endocrinology</i> , 138(9):3735-40 (1997); Kim, K.H., et al., <i>FEBS Lett</i> , 377(2):237-9 (1995); and, Miraglia S et al., <i>Journal of</i>	granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.	
148	HEBGE07	662	<p>Stimulation of insulin secretion from pancreatic beta cells.</p> <p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., <i>Am J Physiol</i>, 277(4 Pt 2):R959-66 (1999); Li, M., et al., <i>Endocrinology</i>, 138(9):3735-40 (1997); Kim, K.H., et al., <i>FEBS Lett</i>, 377(2):237-9 (1995); and, Miraglia S et al., <i>Journal of</i></p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with</p>

			<p>Biomolecular Screening, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. Endocrinology 1992, 130:167.</p>	<p>obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
149	HEGAU15	663	<p>Stimulation of Calcium Flux in pancreatic beta cells.</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious</p>

150	HELAT35	664	Production of IL-6	<p>136(10):4589-601 (1995); Mogami H, et al., Endocrinology, 136(7):2960-6 (1995); Richardson SB, et al., Biochem J, 288 (Pt 3):847-51 (1992); and, Meats, JE, et al., Cell Calcium 1989 Nov-Dec;10(8):535-41 (1989), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777 Refs: Lord and Ashcroft. Biochem. J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.</p>	<p>Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
				<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus,</p>	

			<p>cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhaselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
151	HELBUS4	665	<p>Assays for the activation of transcription through the API response element are known in the art and may be used or</p>	<p>Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune</p>

152	HEL684	666	<p>in immune cells (such as T-cells).</p> <p>polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate growth and other cell functions. Exemplary assays for transcription through the API response element that may be used or routinely modified to test API-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1988); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Rellahan et al., <i>J Biol Chem</i> 272(49):30806-30811 (1997); Chang et al., <i>Mol Cell Biol</i> 18(9):4986-4993 (1998); and Fraser et al., <i>Eur J Immunol</i> 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTL cell line, which is an IL-2 dependent suspension-culture cell line with cytotoxic activity.</p>	<p>Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.</p>
			<p>routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate growth and other cell functions. Exemplary assays for transcription through the API response element that may be used or routinely modified to test API-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1988); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Rellahan et al., <i>J Biol Chem</i> 272(49):30806-30811 (1997); Chang et al., <i>Mol Cell Biol</i> 18(9):4986-4993 (1998); and Fraser et al., <i>Eur J Immunol</i> 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTL cell line, which is an IL-2 dependent suspension-culture cell line with cytotoxic activity.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for</p>
			<p>Activation of Adipocyte ERK Signaling Pathway</p>	

			<p>promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brustel Y, <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders").</p> <p>Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment</p>
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153	HELG84	667	Activation of Adipocyte ERK Signaling Pathway	<p>(e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases) section below (particularly of the urinary tract and skin). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An</p>
				<p>Kinase assay. Kinase assays, for example an Erk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be</p>

			<p>used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brustel Y, <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"). Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious</p>
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154	HEMEY47	668	Production of IL-6	<p>IL-6 FMAT. IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases. Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones</p>	<p>Diseases' section below (particularly of the urinary tract and skin). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and</p>
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156	HEPB14	670	<p>cells (such as natural killer cells).</p>	<p>and may be used or routinely modified to assess the ability of polypeptides and the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT6 transcription factors and modulate the expression of multiple genes. Exemplary assays for transcription through the STAT6 response element that may be used or routinely modified to test STAT6 response element activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Georas et al., Blood 92(12):4529-4538 (1998); Moffatt et al., Transplantation 69(7):1521-1523 (2000); Curiel et al., Eur J Immunol 27(8):1982-1987 (1997); and Masuda et al., J Biol Chem 275(38):29331-29337 (2000), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat natural killer cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. Additional preferred indications include infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
			<p>Activation of transcription through API response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the API response element are known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of</p>	<p>Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease").</p>

157	HEQA80	671	Activation of Natural Killer Cell ERK Signaling Pathway.	<p>the invention) to modulate growth and other cell functions. Exemplary assays for transcription through the AP1 response element that may be used or routinely modified to test AP1-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1988); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Rellahan et al., J Biol Chem 272(49):30806-30811 (1997); Chang et al., Mol Cell Biol 18(9):4986-4993 (1998); and Fraser et al., Eur J Immunol 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension-culture cell line with cytotoxic activity.</p> <p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be</p>	<p>Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.</p>
				<p>A highly preferred embodiment of the invention includes a method for stimulating natural killer cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting natural killer cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating natural killer cell differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting natural killer cell differentiation. Highly preferred indications include neoplastic diseases (e.g., as described below under</p>	

			<p>used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., Biol Chem 379(8-9):1101-1110 (1998); Kyriakis JM, Biochem Soc Symp 64:29-48 (1999); Chang and Karin, Nature 410(6824):37-40 (2001); and Cobb MH, Prog Biophys Mol Biol 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Natural killer cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary natural killer cells that may be used according to these assays include the human natural killer cell lines (for example, NK-YT cells which have cytolytic and cytotoxic activity) or primary NK cells.</p>	<p>"Hyperproliferative Disorders", blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders", immune disorders (e.g., as described below under "Immune Activity") and infections (e.g., as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include cancers such as, kidney, melanoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, urinary cancer, lymphoma and leukemias. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Other highly preferred indications include, pancytopenia, leukopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), arthritis, asthma, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, immune reactions to transplanted organs and tissues, endocarditis, meningitis, Lyme Disease, and allergies.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly</p>
158	HEQBF89	672	Activation of Endothelial Cell p38 or JNK Signaling Pathway.	<p>Kinase assay. JNK and p38 kinase assays for signal transduction that regulate cell proliferation, activation, or apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and apoptosis.</p>

<p>preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) endothelial cell activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) the activation of and/or inactivating endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred</p>	<p>Exemplary assays for JNK and p38 kinase activity that may be used or routinely modified to test JNK and p38 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Gupta et al., <i>Exp Cell Res</i> 247(2): 495-504 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobble MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary endothelial cells that may be used according to these assays include human umbilical vein endothelial cells (HUVEC), which are endothelial cells which line venous blood vessels, and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	
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				<p>indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangiopericytoma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, restenosis; venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment/prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or</p>
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159	HETC116	673	Activation of Adipocyte ERK Signaling Pathway	<p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brustel Y., <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001), and Cobbs MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells</p>	<p>"Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders").</p> <p>Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An</p>
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<p>that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>additional highly preferred indication is a complication associated with diabetes (e.g., diabetic neuropathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer.</p>
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160	HEITDW38	674	Production of IL-6	<p>IL-6 FMAT. IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases. Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al.,</p>	<p>Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia.</p>
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160	HETDW38	674	Production of MCP-1	<p>J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhaesselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>MCP-1 F/MAT. Assays for immunomodulatory proteins that are produced by a large variety of cells and act to induce chemotaxis and activation of monocytes and T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, induce chemotaxis, and modulate immune cell activation. Exemplary assays that test for immunomodulatory proteins evaluate the production of cell surface markers, such as monocyte chemoattractant protein (MCP), and the activation of monocytes and T cells. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or</p>	<p>leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
				<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) MCP-1 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MCP-1 production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs</p>	

161	HETEX67	675	Production of IL-6	<p>antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Eremin, J R Coll Surg Ednb 45(1):9-19 (2001); and Verhassel et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>IL-6/FMAT. IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases. Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of</p>	<p>and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis (bacterial and viral), Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred</p>
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162	HFCDW95	676	<p>the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Vermaas et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>Assays for the activation of transcription through the cAMP response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to increase cAMP, bind to CREB transcription factor, and modulate</p>	<p>indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as</p>
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			<p>expression of genes involved in a wide variety of cell functions. Exemplary assays for transcription through the cAMP response element that may be used or routinely modified to test cAMP-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Genes 13(2):105-117 (1997); and Belkowski et al., J Immunol 161(2):659-665 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the JURKAT cell line, which is a suspension culture of leukemia cells that produce IL-2 when stimulated.</p>	<p>described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
162	HFCDW95	676	<p>Activation of transcription through NFKB response element in immune cells (such as T-cells).</p>	<p>Highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), and immunodeficiencies (e.g., as described below). An additional highly preferred indication is infection (e.g., AIDS, and/or an infectious disease as described below under "Infectious Disease"). Highly preferred indications include neoplastic diseases</p>

163	HFCE04	677	Regulation of transcription via DMEF1 response element in adipocytes and pre-adipocytes	<p>response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henhorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Gnes 15(2):105-117 (1997); and Fraser et al., 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the MOLT4, that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>(e.g., melanoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, melanoma, renal cell carcinoma, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, suppression of immune reactions to transplanted organs, asthma and allergy.</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious</p>
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			<p>test for DMEF1 response element activity (in adipocytes and pre-adipocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Thai, M.V., et al., J Biol Chem, 273(23):14285-92 (1998); Mora, S., et al., J Biol Chem, 275(21):16323-8 (2000); Liu, M.L., et al., J Biol Chem, 269(45):28514-21 (1994); "Identification of a 30-base pair regulatory element and novel DNA binding protein that regulates the human GLUT4 promoter in transgenic mice", J Biol Chem, 2000 Aug 4;275(31):23666-73; Berger, et al., Gene 66:1-10 (1988); and, Cullen, B., et al., Methods in Enzymol. 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety. Adipocytes and pre-adipocytes that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include the mouse 3T3-L1 cell line which is an adherent mouse preadipocyte cell line. Mouse 3T3-L1 cells are a continuous substrain of 3T3 fibroblasts developed through clonal isolation. These cells undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation culture conditions.</p>	<p>diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
164	HFCFD04	678	<p>IL-6 FMA1. IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred</p>

			<p>cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases. Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhaselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the</p>	<p>indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neuropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophelia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
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165	HFC/FE20	679	<p>art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>Kinase assay. Kinase assays, for example an GSK-3 assays, for PI3 kinase signal transduction that regulate glucose metabolism and cell survival are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit glucose metabolism and cell survival. Exemplary assays for PI3 kinase activity that may be used or routinely modified to test PI3 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Foner et al. Biol Chem 379(8-9):1101-1110 (1998); Nikoulina et al. Diabetes 49(2):263-271 (2000); and Schreyer et al., Diabetes 48(8):1662-1666 (1999), the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like</p>	<p>A highly preferred embodiment of the invention includes a method for increasing adipocyte survival. An alternative highly preferred embodiment of the invention includes a method for decreasing adipocyte survival. A preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"). Preferred indications include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"), blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease and (e.g., renal failure, neuropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve</p>
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				<p>conversion under appropriate differentiation conditions known in the art.</p> <p>damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein.</p> <p>Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Highly preferred indications include neoplasms and cancer, such as, lipoma, liposarcoma, lymphoma, leukemia and breast, colon, and kidney cancer. Additional highly preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
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166	HFEAY59	680	Endothelial Cell Apoptosis	<p>Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote caspase protease-mediated apoptosis. Induction of apoptosis in endothelial cells supporting the vasculature of tumors is associated with tumor regression due to loss of tumor blood supply. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Lee et al., FEBS Lett 485(2-3): 122-126 (2000); Nor et al., J Vasc Res 37(3): 209-218 (2000); and Karsan and Harlan, J Atheroscler Thromb 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary endothelial cells that may be used according to these assays include bovine aortic endothelial cells (bAEC), which are an example of endothelial cells which line blood vessels and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that</p>
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				<p>stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangiopericytoma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, restenosis, venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment/prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and</p>
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166	HFEAY59	680	Production of IFN γ using a T cells	<p>vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease"). Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional preferred indications include idiopathic pulmonary fibrosis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach,</p>
				<p>IFNγ plays a central role in the immune system and is considered to be a proinflammatory cytokine. IFNγ promotes TH1 and inhibits TH2 differentiation; promotes IgG2a and inhibits IgE secretion; induces macrophage activation; and increases MHC expression. Assays for immunomodulatory proteins produced by T cells and NK cells that regulate a variety of inflammatory activities and inhibit TH2 helper cell functions are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, regulate inflammatory activities, modulate TH2 helper cell function, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as Interferon gamma (IFNγ), and the activation of T cells. Such assays that may be used or routinely modified to test</p>

166	HFEAY39	680	<p>immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., J Clin Lab Anal 8(5):225-233 (1995); Billiau et al., Ann NY Acad Sci 856:22-32 (1998); Boehm et al., Annu Rev Immunol 15:749-795 (1997), and Rheumatology (Oxford) 38(3):214-20 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art.</p> <p>Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, proctitis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
			<p>Assays for measuring expression of ICAM-1 are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate ICAM-1 expression. Exemplary assays that may be used or routinely modified to measure ICAM-1 expression include assays disclosed in: Takacs P, et al, FASEB J, 15(2):279-281 (2001); and, Miyamoto K, et al., Am J Pathol,</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Inflammation, Vascular Disease, Atherosclerosis, Restenosis, and Stroke</p>

167	HFGAUJ 6	681	Production of MIP1alpha	<p>156(5):1733-1739 (2000), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include microvascular endothelial cells (MVEC).</p> <p>MIP-1alpha FMAIT. Assays for immunomodulatory proteins produced by activated dendritic cells that upregulate monocyte/macrophage and T cell chemotaxis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate chemotaxis, and modulate T cell differentiation. Exemplary assays that test for immunomodulatory proteins evaluate the production of chemokines, such as macrophage inflammatory protein 1 alpha (MIP-1a), and the activation of monocytes/macrophages and T cells. Such assays that may be used or routinely modified to test immunomodulatory and chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999), Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Erenin, J R Coll Surg Edinb 45(1):9-19 (2001); Drakes et</p>	<p>each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include microvascular endothelial cells (MVEC).</p> <p>MIP-1alpha FMAIT. Assays for immunomodulatory proteins produced by activated dendritic cells that upregulate monocyte/macrophage and T cell chemotaxis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate chemotaxis, and modulate T cell differentiation. Exemplary assays that test for immunomodulatory proteins evaluate the production of chemokines, such as macrophage inflammatory protein 1 alpha (MIP-1a), and the activation of monocytes/macrophages and T cells. Such assays that may be used or routinely modified to test immunomodulatory and chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999), Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Erenin, J R Coll Surg Edinb 45(1):9-19 (2001); Drakes et</p>	<p>156(5):1733-1739 (2000), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include microvascular endothelial cells (MVEC).</p> <p>MIP-1alpha FMAIT. Assays for immunomodulatory proteins produced by activated dendritic cells that upregulate monocyte/macrophage and T cell chemotaxis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate chemotaxis, and modulate T cell differentiation. Exemplary assays that test for immunomodulatory proteins evaluate the production of chemokines, such as macrophage inflammatory protein 1 alpha (MIP-1a), and the activation of monocytes/macrophages and T cells. Such assays that may be used or routinely modified to test immunomodulatory and chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999), Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Erenin, J R Coll Surg Edinb 45(1):9-19 (2001); Drakes et</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating MIP1a production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MIP1a production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such</p>
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168	HFIH275	682	Production of TNF alpha by T cells	<p>al., <i>Transp Immunol</i> 8(1):17-29 (2000); Verhaselt et al., <i>J Immunol</i> 158:2919-2925 (1997); and Nardelli et al., <i>J Leukoc Biol</i> 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>TNFα FαTMAT. Assays for immunomodulatory proteins produced by activated macrophages, T cells, fibroblasts, smooth muscle, and other cell types that exert a wide variety of inflammatory and cytotoxic effects on a variety of cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate inflammation and cytotoxicity, and mediate humoral and/or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines such as tumor necrosis factor alpha (TNFα), and the induction or inhibition of an inflammatory or cytotoxic response. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including</p>	<p>as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
				<p>A highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, glioma (e.g.,</p>	

169	HFTJAZ9	683	Production of IL-4	<p>antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Verhasselet et al., Eur J Immunol 28(11):3886-3890 (1998); Dahlen et al., J Immunol 160(7):3585-3593 (1998); Verhasselet et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, asthma, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neurophilias, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
				<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-4 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-4 production. A highly preferred indication includes asthma. A highly preferred indication includes allergy. A highly preferred indication includes rhinitis. Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications</p>	

			immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-4, and the stimulation of immune cells, such as B cells, T cells, macrophages and mast cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., J Clin Lab Anal 8(5):277-283 (1194); Yssel et al., Res Immunol 144(8):610-616 (1993); Bagley et al., Nat Immunol 1(3):257-261 (2000); and van der Graaff et al., Rheumatology (Oxford) 38(3):214-220 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.	include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").
169	HFUA29	683	Upregulation of CD152 and activation of T cells	A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the

			<p>autoimmune diseases. Overexpression of CD152 may lead to impaired immunoresponses. Assays for immunomodulatory proteins important in the maintenance of T cell homeostasis and expressed almost exclusively on CD4+ and CD8+ T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, maintain T cell homeostasis, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD152, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Minghella et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); McCoy et al., <i>Immunol Cell Biol</i> 77(1):1-10 (1999); Oosterveegh et al., <i>Curr Opin Immunol</i> 11(3):294-300 (1999); and Saito T, <i>Curr Opin Immunol</i> 10(3):313-321 (1998), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells</p>	<p>invention includes a method for inhibiting T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilis, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy. An additional preferred indication is infection (e.g., as described below under "Infectious Disease").</p>
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170	HFE1A68	684		<p>are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p> <p>Kinase assays, for example kinase assays for members of the MAP kinase family (including p38, JAK, and ERK) are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, differentiation, and/or cytokine production in immune cells such as T-cells. Exemplary assays for MAP kinase family members that may be used or routinely modified to test polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Rincon M., <i>Curr Opin Immunol</i>; 13(3):339-345 (2001); Wang LH, et al., <i>J Immunol</i>, 162(7):3897-3904 (1999); Sakamoto H, et al., <i>J Biol Chem</i>, 275(46):35857-35862 (2000), the contents of each of which are herein incorporated by reference in its entirety. Exemplary immune cells (for example, T-cells) that may be used according to these assays include the mouse CTLL cell line.</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of inflammation, infection, allergy, asthma, autoimmunity, and cancer.</p>
171	HFE805	685	Production of ICAM-1	<p>Assays for measuring expression of ICAM-1 are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Inflammation, Vascular Disease,</p>

				invention (including antibodies and agonists or antagonists of the invention) to regulate ICAM-1 expression. Exemplary assays that may be used or routinely modified to measure ICAM-1 expression include assays disclosed in: Takacs P. et al, FASEB J. 15(2):279-281 (2001); and, Miyamoto K. et al., Am J Pathol, 156(5):1733-1739 (2000), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include microvascular endothelial cells (MVEC).	Atherosclerosis, Restenosis, and Stroke
172	HFKEU12	686	Activation of transcription through serum response element in immune cells (such as T-cells).	Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al.,	A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally,

			<p>Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment</p>
173	HPPCZ55	687	<p>Regulation of viability and proliferation of pancreatic beta cells.</p>	<p>Assays for the regulation of viability and proliferation of cells in vitro are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate viability and proliferation of pancreatic beta cells. For example, the Cell Titer-Glo luminescent cell viability assay measures the number of viable cells in culture based on quantitation of the ATP present which signals the presence of metabolically active cells. Exemplary assays that may be used or routinely modified to test regulation of viability and proliferation of pancreatic beta cells by polypeptides of the</p>

				<p>invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Friedrichsen BN, et al., Mol Endocrinol, 15(1):136-48 (2001); Huoari M.A., et al., Endocrinology, 139(4):1494-9 (1998); Hugel SR, et al., J Biol Chem 1998 Jul 10;273(28):17711-9 (1998), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. Endocrinology, 1992, 130:167.</p>	<p>(e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
174	HPPDR62	688	Activation of Adipocyte ERK Signaling Pathway	<p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly</p>

			<p>agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brustel Y, <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders").</p> <p>Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity.</p>
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175	HPPDS07	689	Activation of Natural Killer Cell ERK Signaling Pathway.	<p>Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating natural killer cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting natural killer cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating natural killer cell differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting natural killer cell differentiation. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity" and infections (e.g., as described below under "Infectious Disease"). Preferred</p>
				<p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., Biol Chem 379(8-9):1101-1110</p>

			<p>(1998); Kyriakis JM, Biochem Soc Symp 64:29-48 (1999); Chang and Karin, Nature 410(6824):37-40 (2001); and Cobb MH, Prog Biophys Mol Biol 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Natural killer cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary natural killer cells that may be used according to these assays include the human natural killer cell lines (for example, NK-YT cells which have cytolytic and cytotoxic activity) or primary NK cells.</p>	<p>indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include cancers such as, kidney, melanoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, urinary cancer, lymphoma and leukemias. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Other highly preferred indications include, pancytopenia, leukopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), arthritis, asthma, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, immune reactions to transplanted organs and tissues, endocarditis, meningitis, Lyme Disease, and allergies.</p>
			<p>HLA-DR FMA1T. MHC class II is essential for correct presentation of antigen to CD4+ T cells. Deregulation of MHC class II has been associated with autoimmune diseases (e.g., diabetes, rheumatoid arthritis, systemic lupus erythematosus, and multiple sclerosis). Assays for immunomodulatory proteins expressed on MHC class II expressing T cells and antigen presenting cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, and/or mediate</p>	<p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and alternatively, suppressing a T cell-mediated immune response. A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section</p>
175	HFPDS07	689	<p>Upregulation of HLA-DR and activation of T cells</p>	

			<p>humoral or cell-mediated immunity.</p> <p>Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of MHC class II products, such as HLA-DR antigens, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Lamour et al., Clin Exp Immunol 89(2):217-222 (1992); Hurne and Sihvola, Immunol Lett 20(3):217-222 (1989); Gansbacher and Zier, Cell Immunol 117(1):22-34 (1988); and Itoh et al., J Histochem Cytochem 40(11):1675-1683, the contents of each of which are herein incorporated by reference in its entirety.</p> <p>Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypersmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. An additional preferred indication is infection (e.g., AIDS, and/or as described below under "Infectious Disease"). Preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"), and neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancer, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia,</p>
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176	HFRAB10	690	Production of MIP1alpha	<p>MIP-1alpha FMAT: Assays for immunomodulatory proteins produced by activated dendritic cells that upregulate monocyte/macrophage and T cell chemotaxis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate chemotaxis, and modulate T cell differentiation. Exemplary assays that test for immunomodulatory proteins evaluate the production of chemokines, such as macrophage inflammatory protein 1 alpha (MIP-1a), and the activation of monocytes/macrophages and T cells. Such assays that may be used or routinely modified to test immunomodulatory and chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Eremin, J R Coll</p>	<p>and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating MIP1a production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MIP1a production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders.</p> <p>Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly</p>
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177	HFTBM38	691	Upregulation of CD152 and activation of T cells	<p>Surg Edn 45(1):9-19 (2001); Drakes et al., Transp Immunol 8(1):17-29 (2000); Verhaselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>CD152 FMAT. CD152 (a.k.a. CTLA-4) expression is restricted to activated T cells. CD152 is a negative regulator of T cell proliferation. Reduced CD152 expression has been linked to hyperproliferative and autoimmune diseases. Overexpression of CD152 may lead to impaired immunoresponses. Assays for immunomodulatory proteins important in the maintenance of T cell homeostasis and expressed almost exclusively on CD4+ and CD8+ T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, maintain T cell homeostasis, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such</p>	<p>preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
				<p>A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma,</p>	<p>preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>

177	HFTBM38	691	<p>as CD152, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); McCoy et al., Immunol Cell Biol 77(1):1-10 (1999); Oostervegal et al., Curr Opin Immunol 11(3):294-300 (1999); and Saito T, Curr Opin Immunol 10(3):313-321 (1998), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p> <p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-</p>	<p>melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy. An additional preferred indication is infection (e.g., as described below under "Infectious Disease").</p>
				<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple</p>

			<p>related genes in many cell types.</p> <p>Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred</p>
178	HFTDH56	692	Endothelial Cell Apoptosis	<p>Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote caspase protease-mediated</p>

			<p>apoptosis. Induction of apoptosis in endothelial cells supporting the vasculature of tumors is associated with tumor regression due to loss of tumor blood supply. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity or polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Lee et al., <i>FEBS Lett</i> 485(2-3): 122-126 (2000); Nor et al., <i>J Vasc Res</i> 37(3): 209-218 (2000); and Karsan and Harlan, <i>J Atheroscler Thromb</i> 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary endothelial cells that may be used according to these assays include bovine aortic endothelial cells (bAEC), which are an example of endothelial cells which line blood vessels and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma</p>
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					<p>(capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangiopericytoma, lymphangioma, angiosarcoma, hemangioepithelioma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, stenosis, venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment/prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below).</p>
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179	HFVGK35	693	Production of IL-6	<p>IL-6 FMA1. IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases.</p> <p>Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function.</p> <p>Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities.</p> <p>Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miragita et al., J Biomolecular Screening 4:193-</p>	<p>Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer.</p> <p>Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute</p>
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179	HFV/GK35	693	Production of MCP-1	<p>204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhasselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>MCP-1 F/MAT. Assays for immunomodulatory proteins that are produced by a large variety of cells and act to induce chemotaxis and activation of monocytes and T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, induce chemotaxis, and modulate immune cell activation. Exemplary assays that test for immunomodulatory proteins evaluate the production of cell surface markers, such as monocyte chemoattractant protein (MCP), and the activation of monocytes and T cells. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include</p>	<p>lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
				<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) MCP-1 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MCP-1 production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) MCP-1 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MCP-1 production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes</p>

180	HFVHW43	694	<p>assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Eremin, J R Coll Surg Ednb 45(1):9-19 (2001); and Verhasselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in:</p>	<p>assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Eremin, J R Coll Surg Ednb 45(1):9-19 (2001); and Verhasselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in:</p>	<p>mellitus, endocarditis, meningitis (bacterial and viral), Lyme Disease, asthma, and allergy Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious</p>
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181	HFXAV37	695	<p>Activation of Skeletal Muscle Cell P13 Kinase Signalling Pathway</p>	<p>Kinase assay. Kinase assays, for example an GSK-3 kinase assay, for P13 kinase signal transduction that regulate glucose metabolism and cell survival are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit glucose metabolism and cell survival. Exemplary assays for P13 kinase activity that may be used or routinely modified to test P13 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of</p>

			<p>the invention) include assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Nikoulina et al., <i>Diabetes</i> 49(2):263-271 (2000); and Schreyer et al., <i>Diabetes</i> 48(8):1662-1666 (1999), the contents of each of which are herein incorporated by reference in its entirety.</p> <p>Rat myoblast cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat myoblast cells that may be used according to these assays include L6 cells. L6 is an adherent rat myoblast cell line, isolated from primary cultures of rat thigh muscle, that fuses to form multinucleated myotubes and striated fibers after culture in differentiation media.</p>	<p>method for inhibiting muscle cell differentiation. In a specific embodiment, skeletal muscle cell differentiation is inhibited. Highly preferred indications include disorders of the musculoskeletal system. Preferred disorders include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), endocrine disorders (e.g., as described below under "Endocrine Disorders"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), blood disorders (e.g., as described below under "Immune Activity"), "Cardiovascular Disorders", and/or "Blood-Related Disorders", immune disorders (e.g., as described below under "Immune Activity"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infections (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication</p>
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182	HFXBN86	696	Production of MIP1alpha	<p>MIP-1alpha FMAT. Assays for immunomodulatory proteins produced by activated dendritic cells that upregulate monocyte/macrophage and T cell chemotaxis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate chemotaxis, and modulate T cell differentiation. Exemplary assays that test for immunomodulatory proteins evaluate the production of chemokines, such as macrophage inflammatory protein 1 alpha (MIP-1a), and the activation of monocytes/macrophages and T cells. Such assays that may be used or routinely</p>	<p>is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal system including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include: myopathy, atrophy, congestive heart failure, cachexia, myxomas, fibromas, congenital cardiovascular abnormalities, heart disease, cardiac arrest, heart valve disease, and vascular disease. Highly preferred indications include neoplasms and cancer, such as, rhabdomyoma, rhabdomyosarcoma, stomach, esophageal, prostate, and urinary cancer. Preferred indications also include breast, lung, colon, pancreatic, brain, and liver cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating MIP1a production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing MIP1a production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple</p>
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183	HFXT66	697	<p>modified to test immunomodulatory and chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Eremin, J R Coll Surg Edinb 45(1):9-19 (2001); Drakes et al., Transp Immunol 8(1):17-29 (2000); Verhaselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>IL-2 FMAAT. IL-2 is the principal T cell factor that allows T cell expansion and differentiation into effector cells. Assays for immunomodulatory proteins secreted by TH1 cells that promote T cell and NK cell growth and differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, promote immune cell growth and differentiation, and/or mediate</p>	<p>myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilis, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating IL-2 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-2 production. A highly preferred embodiment of the invention includes a method for stimulating T cell expansion. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell expansion. A highly preferred embodiment of the invention includes a method for stimulating T cell differentiation. In a specific embodiment, this method stimulates T cell differentiation into effector cells. An alternative highly preferred embodiment of the invention</p>
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			<p>humoral or cell-mediated immunity.</p> <p>Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-2, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Ladda et al., Immunology 94(4):496-502 (1998); and Powell et al., Immunol Rev 165:287-300 (1998), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>includes a method for inhibiting T cell differentiation. In a specific embodiment, this method inhibits the differentiation of T cells into effector cells. Highly preferred indications include neoplastic diseases (e.g., melanoma, renal cell carcinoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms, such as, for example, melanoma (e.g., metastatic melanoma), renal cell carcinoma (e.g., metastatic renal cell carcinoma), leukemia, lymphoma (e.g., T cell lymphoma), and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, ovarian, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). A highly preferred indication is AIDS and HIV infection. Additional highly preferred indications include suppression of immune reactions to transplanted organs and/or tissues, uveitis, psoriasis, and tropical spastic paraparesis. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), organ and tissue transplant rejection. Additional preferred indications include inflammation and inflammatory disorders. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, Non-Hodgkin's lymphoma, Kaposi's sarcoma arthritis, granulomatous disease, inflammatory bowel disease, Hepatitis (e.g., Hepatitis C), sepsis, neutropenia,</p>
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184	HFXFZ46	698	Upregulation of HLA-DR and activation of T cells	<p>HLA-DR FMAT, MHC class II is essential for correct presentation of antigen to CD4+ T cells. Deregulation of MHC class II has been associated with autoimmune diseases (e.g., diabetes, rheumatoid arthritis, systemic lupus erythematosus, and multiple sclerosis). Assays for immunomodulatory proteins expressed on MHC class II expressing T cells and antigen presenting cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of MHC class II products, such as HLA-DR antigens, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Lamour et al., Clin Exp Immunol 89(2):217-222 (1992); Hurne and Silvola, Immunol Lett 20(3):217-222 (1989); Gansbacher and Zier, Cell Immunol</p>	<p>neutrophilia, psoriasis, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p> <p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and alternatively, suppressing a T cell-mediated immune response. A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly</p>
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185	HGBER72	699	<p>Activation of transcription through API response element in immune cells (such as T-cells).</p>	<p>117(1):22-34 (1989); and Itoh et al., J. Histochem Cytochem 40(11):1675-1683, the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. An additional preferred indication is infection (e.g., AIDS, and/or as described below under "Infectious Disease"). Preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"), and neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancer, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy.</p> <p>Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and</p>
				<p>Assays for the activation of transcription through the API response element are known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate growth and other cell functions. Exemplary assays for transcription through the API response</p>	

			<p>element that may be used or routinely modified to test AP-1-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1988); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Rellahan et al., <i>J Biol Chem</i> 272(49):30806-30811 (1997); Chang et al., <i>Mol Cell Biol</i> 18(9):4986-4993 (1998); and Fraser et al., <i>Eur J Immunol</i> 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. Mouse T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the HT2 cell line, which is an IL-2 dependent suspension culture cell line that also responds to IL-4.</p>	<p>immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.</p>
185	HGBERT2	699	<p>Activation of transcription through NFAT response in immune cells (such as T-cells).</p>	<p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. An additional highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include neoplastic diseases (e.g.,</p>

185	HGBR72	699	<p>Activation of transcription through NFkB response element in immune cells (such as T-cells).</p>	<p>element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Serfling et al., Biochim Biophys Acta 1498(1):1-18 (2000); De Boer et al., Int J Biochem Cell Biol 31(10):1221-1236 (1999); Fraser et al., Eur J Immunol 29(3):838-844 (1999); and Yeseen et al., J Biol Chem 268(19):14285-14293 (1993), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the JURKAT cell line, which is a suspension culture of leukemia cells that produce IL-2 when stimulated.</p>	<p>leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
				<p>Highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), and immunodeficiencies (e.g., as described below). An additional highly preferred indication is infection (e.g., AIDS, and/or an infectious disease as described below under "Infectious Disease").</p> <p>Highly preferred indications include neoplastic diseases (e.g., melanoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly</p>	

186	HGBEY14	700	Production of TNF alpha by dendritic cells	<p>agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Gress 15(2):105-117 (1997); and Fraser et al., 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the MOL.T4, that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>preferred indications include neoplasms and cancers, such as, for example, melanoma, renal cell carcinoma, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, suppression of immune reactions to transplanted organs, asthma and allergy.</p> <p>A highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly</p>
				<p>TNFα Fα1: Assays for immunomodulatory proteins produced by activated macrophages, T cells, fibroblasts, smooth muscle, and other cell types that exert a wide variety of inflammatory and cytotoxic effects on a variety of cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate inflammation and cytotoxicity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines such as tumor necrosis factor alpha (TNFα), and the induction or inhibition of an inflammatory or cytotoxic response. Such assays that may be used or routinely modified to test immunomodulatory activity of</p>	

				<p>polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Verhasselt et al., Eur J Immunol 28(11):3886-3890 (1998); Dahlen et al., J Immunol 160(7):3585-3593 (1998); Verhasselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>			<p>preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
187	HGBN34	701	Production of IL-5	<p>IL-5 PMAT. Assays for immunomodulatory proteins secreted by TH2 cells, mast cells, basophils, and eosinophils that stimulate eosinophil function and B cell Ig production and promote polarization of CD4+ cells into TH2 cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, stimulate immune cell function, modulate B cell Ig production, modulate immune cell</p>	<p>A highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-5 production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-5 production. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) immunoglobulin production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) immunoglobulin production. A highly preferred indication includes allergy. A highly preferred indication includes asthma. A highly preferred indication includes rhinitis. An additional highly preferred indication is infection (e.g., an infectious</p>		

			<p>polarization, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-5, and the stimulation of eosinophil function and B cell Ig production. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Ohsima et al., Blood 92(9):3338-3345 (1998); Jung et al., Eur J Immunol 25(8):2413-2416 (1995); Mori et al., J Allergy Clin Immunol 106(1 Pt 2):558-564 (2000); and Koning et al., Cytokine 9(6):427-436 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>disease as described below under "Infectious Disease"), and inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease.</p>
188	HGBHP91	702	<p>Regulation of transcription via DMEF1 response</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy,</p>

	<p>element in adipocytes and pre-adipocytes</p>	<p>routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to activate the DMEF1 response element in a reporter construct (such as that containing the GLUT4 promoter) and to regulate insulin production. The DMEF1 response element is present in the GLUT4 promoter and binds to ME2 transcription factor and another transcription factor that is required for insulin regulation of Glut4 expression in skeletal muscle. GLUT4 is the primary insulin-responsive glucose transporter in fat and muscle tissue. Exemplary assays that may be used or routinely modified to test for DMEF1 response element activity (in adipocytes and pre-adipocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Thai, M.V., et al., J Biol Chem, 273(23):14285-92 (1998); Mora, S., et al., J Biol Chem, 275(21):16323-8 (2000); Liu, M.L., et al., J Biol Chem, 269(45):28514-21 (1994); "Identification of a 30-base pair regulatory element and novel DNA binding protein that regulates the human GLUT4 promoter in transgenic mice", J Biol Chem, 2000 Aug 4;275(31):23666-73; Berger, et al., Gene 66:1-10 (1988); and, Cullen, B., et al., Methods in Enzymol. 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety. Adipocytes and pre-adipocytes that may be used according to these assays are publicly</p> <p>diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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189	HGCAC19	703	<p>Activation of transcription through CD28 response element in immune cells (such as T-cells).</p>	<p>available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include the mouse 3T3-L1 cell line which is an adherent mouse preadipocyte cell line. Mouse 3T3-L1 cells are a continuous substrain of 3T3 fibroblasts developed through clonal isolation. These cells undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation culture conditions.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-2 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-2 production. Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. An additional highly preferred indication includes infection (e.g., AIDS, and/or as described below under "Infectious Disease"). Highly preferred indications include neoplastic diseases (e.g., melanoma, renal cell carcinoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred</p>
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				assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the JURKAT cell line, which is a suspension culture of leukemic cells that produce IL-2 when stimulated.	indications include neoplasms and cancers, such as, for example, melanoma (e.g., metastatic melanoma), renal cell carcinoma (e.g., metastatic renal cell carcinoma), leukemia, lymphoma (e.g., T cell lymphoma), and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. A highly preferred indication is infection (e.g., tuberculosis, infections associated with granulomatous disease, and osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). A highly preferred indication is AIDS. Additional highly preferred indications include suppression of immune reactions to transplanted organs and/or tissues, uveitis, psoriasis, and tropical spastic paraparesis. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, granulomatous disease, inflammatory bowel disease, sepsis, neuropenia, neutrophilia, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.
190	HGCAC19	704	Activation of transcription through CD28 response element in immune cells (such as T-cells).	Assays for the activation of transcription through the CD28 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate IL-2 expression in T cells. Exemplary assays for transcription through the CD28 response	A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a

			<p>element that may be used or routinely modified to test CD28-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); McGuire and Jacobelli, <i>J Immunol</i> 159(3):1319-1327 (1997); Parra et al., <i>J Immunol</i> 166(4):2437-2443 (2001); and Buscher et al., <i>J Biol Chem</i> 3(1):552-560 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the JURKAT cell line, which is a suspension culture of leukemia cells that produce IL-2 when stimulated.</p>	<p>method for stimulating (e.g., increasing) IL-2 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-2 production. Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. An additional highly preferred indication includes infection (e.g., AIDS, and/or as described below under "Infectious Disease"). Highly preferred indications include neoplastic diseases (e.g., melanoma, renal cell carcinoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, melanoma (e.g., metastatic melanoma), renal cell carcinoma (e.g., metastatic renal cell carcinoma), leukemia, lymphoma (e.g., T cell lymphoma), and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. A highly preferred indication is infection (e.g., tuberculosis, infections associated with granulomatous disease, and osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). A highly preferred indication is AIDS. Additional highly preferred indications include suppression of immune reactions to transplanted organs and/or tissues, uveitis, psoriasis, and tropical spastic paraparesis. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications also</p>
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191	HGCAC19	705	<p>Activation of transcription through CD28 response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the CD28 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate IL-2 expression in T cells. Exemplary assays for transcription through the CD28 response element that may be used or routinely modified to test CD28-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al. <i>Gene</i> 66:1-10 (1998); Cullen and Malin, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); McGuire and Jacobelli, <i>J Immunol</i> 159(3):1319-1327 (1997); Parra et al., <i>J Immunol</i> 166(4):2437-2443 (2001); and Burscher et al., <i>J Biol Chem</i> 3(1):552-560 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays</p>	<p>include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-2 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-2 production. Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. An additional highly preferred indication includes infection (e.g., AIDS, and/or as described below under "Infectious Disease"). Highly preferred indications include neoplastic diseases (e.g., melanoma, renal cell carcinoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, melanoma (e.g., metastatic melanoma), renal cell carcinoma (e.g., metastatic renal cell carcinoma).</p>
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				<p>include the JURKAT cell line, which is a suspension culture of leukemia cells that produce IL-2 when stimulated.</p>	<p>leukemia, lymphoma (e.g., T cell lymphoma), and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. A highly preferred indication is infection (e.g., tuberculosis, infections associated with granulomatous disease, and osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). A highly preferred indication is AIDS. Additional highly preferred indications include suppression of immune reactions to transplanted organs and/or tissues, uveitis, psoriasis, and tropical spastic paraparesis. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
192	HHEAK45	706	Insulin Secretion	<p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease,</p>

193	HHEG55	707	Activation of transcription through serum response element	<p>key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Shimizu, H. et al., <i>Endocr J.</i> 47(3):261-9 (2000); Salapatek, A.M., et al., <i>Mol Endocrinol.</i> 13(8):1305-17 (1999); Filipsson, K., et al., <i>Ann N Y Acad Sci.</i> 865:441-4 (1998); Olson, L.K., et al., <i>J Biol Chem.</i> 271(28):16544-52 (1996); and, Miraglia S. et al., <i>Journal of Biomolecular Screening.</i> 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777 Refs: Lord and Ashcroft. <i>Biochem. J.</i> 219: 547-551; Santerre et al. <i>Proc. Natl. Acad. Sci. USA</i> 78: 4339-4343, 1981.</p> <p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may</p>	<p>atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNFα production. An alternative preferred embodiment of the</p>
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			<p>be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); and Black et al., <i>Virus Genes</i> 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>in immune cells (such as T-cells).</p>	<p>invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders" and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
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194	HHFOW 19	708	Production of MIP1alpha	<p>MIP-1alpha FMAAT. Assays for immunomodulatory proteins produced by activated dendritic cells that upregulate monocyte/macrophage and T cell chemotaxis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate chemotaxis, and modulate T cell differentiation. Exemplary assays that test for immunomodulatory proteins evaluate the production of chemokines, such as macrophage inflammatory protein 1 alpha (MIP-1a), and the activation of monocytes/macrophages and T cells. Such assays that may be used or routinely modified to test immunomodulatory and chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Suthaporn and Eremis, J R Coll Surg Edin 45(1):9-19 (2001); Drakes et al., Transp Immunol 8(1):17-29 (2000); Verhasselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating MIP1a production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MIP1a production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
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194	HHFOW19	708	Production of TNF alpha by dendritic cells	<p>art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>TNFα EMAT. Assays for immunomodulatory proteins produced by activated macrophages, T cells, fibroblasts, smooth muscle, and other cell types that exert a wide variety of inflammatory and cytotoxic effects on a variety of cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate inflammation and cytotoxicity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines such as tumor necrosis factor alpha (TNFα), and the induction or inhibition of an inflammatory or cytotoxic response. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Verhasselt et al., Eur J Immunol 28(11):3886-3890 (1998); Dahlen et al., J Immunol 160(7):3585-3593 (1998); Verhasselt et al., J Immunol 158:2919-2925 (1997); and</p>	<p>A highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS,</p>
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194	HHEOW19	708	Insulin Secretion	<p>Nardelli et al., J. Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Shimizu, H., et al., Endocr J, 47(3):261-9 (2000); Salapatek, A.M., et al., Mol Endocrinol, 13(8):1305-17 (1999); Flipsmon, K., et al., Ann NY Acad Sci, 865:441-4 (1998); Olson, L.K., et al., J Biol Chem, 271(28):16544-52 (1996); and,</p>	<p>granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
				<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include</p>	

195	HHFF87	709	Upregulation of CD71 and activation of T cells	<p>Miraglia S et al., Journal of Biomolecular Screening, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATCC# CRL-1777</p> <p>Ref: Lord and Ashcroft. Biochem. J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.</p>	weight loss or alternatively weight gain. Additional highly preferred indications are complications associated with insulin resistance.
				<p>CD71 FMAT. CD71 is the transferrin receptor. Transferrin is a major iron carrying protein that is essential for cell proliferation. CD71 is expressed predominantly on cells that are actively proliferating. Assays for immunomodulatory proteins expressed on activated T cells, B cells, and most proliferating cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional</p>

196	HHFFL34	710	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD71, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Aferra et al., <i>Ann Rheum Dis</i> 52(6):457-460 (1993), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>highly preferred indications include infection. Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
			<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies</p>	

			used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.	<p>(e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
197	HHFFS40	711	Endothelial Cell Apoptosis	<p>Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote caspase protease-mediated apoptosis. Induction of apoptosis in</p> <p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for</p>

			<p>endothelial cells supporting the vasculature of tumors is associated with tumor regression due to loss of tumor blood supply. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Lee et al., <i>FEBS Lett</i> 485(2-3): 122-126 (2000); Nor et al., <i>J Vasc Res</i> 37(3): 209-218 (2000); and Karsan and Harlan, <i>J Atheroscler Thromb</i> 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary endothelial cells that may be used according to these assays include bovine aortic endothelial cells (BAEC), which are an example of endothelial cells which line blood vessels and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inducing apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardio-vascularization. Highly preferred are indications that inhibit angiogenesis and/or cardio-vascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia,</p>
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				<p> bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangiopericytoma. lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, restenosis, venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment/prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and </p>
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197	HHFS40	711	Production of TNF alpha by dendritic cells	<p>TNFα FMAT. Assays for immunomodulatory proteins produced by activated macrophages, T cells, fibroblasts, smooth muscle, and other cell types that exert a wide variety of inflammatory and cytotoxic effects on a variety of cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate inflammation and cytotoxicity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines such as tumor necrosis factor alpha (TNFα), and the induction or inhibition of an inflammatory or cytotoxic response. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Verhasselt et al., Eur J Immunol 28(11):3886-3890 (1998); Dahlen et al., J Immunol 160(7):3585-3593 (1998); Verhasselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are</p>	<p>inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p> <p>A highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production.</p> <p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response.</p> <p>Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of</p>
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197	HHFS40	711	<p>Simulation of Calcium Flux in pancreatic beta cells.</p>	<p>herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>Assays for measuring calcium flux are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mobilize calcium. For example, the FLPR assay may be used to measure influx of calcium. Cells normally have very low concentrations of cytosolic calcium compared to much higher extracellular calcium. Extracellular factors can cause an influx of calcium, leading to activation of calcium responsive signaling pathways and alterations in cell functions. Exemplary assays that may be used or routinely modified to measure calcium flux by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Satin LS, et al., Endocrinology, 136(10):4589-601 (1995); Mogami H, et al., Endocrinology, 136(7):2960-6 (1995); Richardson SB, et al., Biochem J, 288 (Pt 3):847-51 (1992); and, Meats, JE, et al., Cell Calcium 1989 Nov-Dec;10(8):535-41 (1989), the contents of each of which is herein incorporated by reference in its</p>	<p>immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, Diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
				<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated</p>	

			entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATCC# CRL-1777 Refs: Lord and Ashcroft. <i>Biochem. J.</i> 219: 547-551; Santerre et al. <i>Proc. Natl. Acad. Sci. USA</i> 78: 4339-4343, 1981.	with insulin resistance.
198	HHGCS78	712	Regulation of transcription via DMEF1 response element in adipocytes and pre-adipocytes	A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious

198	HHGCS78	712	Production of ICAM-1	<p>(in adipocytes and pre-adipocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Thai, M.V., et al., J Biol Chem, 273(23):14285-92 (1998); Mora, S., et al., J Biol Chem, 275(21):16323-8 (2000); Lin, M.L., et al., J Biol Chem, 269(45):28514-21 (1994); "Identification of a 30-base pair regulatory element and novel DNA binding protein that regulates the human GLUT4 promoter in transgenic mice", J Biol Chem, 2000 Aug 4;275(31):23666-73; Berger, et al., Gene 66:1-10 (1988); and, Cullen, B., et al., Methods in Enzymol. 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety. Adipocytes and pre-adipocytes that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include the mouse 3T3-L1 cell line which is an adherent mouse preadipocyte cell line. Mouse 3T3-L1 cells are a continuous substrain of 3T3 fibroblasts developed through clonal isolation. These cells undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation culture conditions.</p>	<p>Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Inflammation, Vascular Disease, Atherosclerosis, Restenosis, and Stroke</p>
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199	HHGDT26	713	<p>Activation of transcription through API response element in immune cells (such as T-cells).</p>	<p>regulate ICAM-1 expression. Exemplary assays that may be used or routinely modified to measure ICAM-1 expression include assays disclosed in: Takacs P, et al, FASEB J, 15(2):279-281 (2001); and, Miyamoto K, et al., Am J Pathol, 156(5):1733-1739 (2000), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include microvascular endothelial cells (MVEC).</p>	<p>Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis,</p>
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199	HHGDT26	713	Activation of transcription through serum response element in immune cells (such as natural killer cells).	<p>Immunol 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension-culture cell line with cytotoxic activity.</p> <p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types.</p> <p>Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are</p>	<p>asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.</p>
			<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example,</p>		

				publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.	hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal,
200	HHPFU28	714	Activation of transcription through serum response element in immune cells (such as T-cells).	Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these	

200	HHPFU28	714	Activation of Endothelial Cell ERK Signaling Pathway.	<p>assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) endothelial cell activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell differentiation. An</p>
			<p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Barra et al., <i>Biochem Pharmacol</i> 60(8):1171-1178 (2000); Gupta et al., <i>Exp Cell Res</i> 247(2):495-504 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40</p>		

				<p>(2001); and Cobb MH. Prog Biophys Mol Biol 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary endothelial cells that may be used according to these assays include human umbilical vein endothelial cells (HUVEC), which are endothelial cells which line venous blood vessels, and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell differentiation. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangioepithelioma, lymphangioma, lymphangiosarcoma. Highly preferred indications also</p>
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				<p>include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, stenosis, venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema, and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment/prevention of endometriosis and related conditions.</p> <p>Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p>
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201	HHPSA85	715	<p>Activation of Adipocyte ERK Signaling Pathway</p>	<p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK Kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Boustel Y, <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyrakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999), the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"). Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or</p>
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				<p>blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
202	HHSB106	716	Regulation of apoptosis in pancreatic beta cells.	<p>Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy,</p>

			<p>assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote caspase protease-mediated apoptosis. Apoptosis in pancreatic beta is associated with induction and progression of diabetes. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Loweth, AC, et al., FEBS Lett, 400(3):285-8 (1997); Stini, KS, et al., Biochem Mol Biol Int, 39(6):1229-36 (1996); Krauthelm, A., et al., Br J Pharmacol, 129(4):687-94 (2000); Chandra J, et al., Diabetes, 50 Suppl 1:S44-7 (2001); Suk K, et al., J Immunol, 166(7):4481-9 (2001); Tejedo J, et al., FEBS Lett, 459(2):238-43 (1999); Zhang, S., et al., FEBS Lett, 455(3):315-20 (1999); Lee et al., FEBS Lett 485(2-3): 122-126 (2000); Nor et al., J Vasc Res 37(3): 209-218 (2000); and Karsin and Harlan, J Atheroscler Thromb 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include RIN-m. RIN-m is a rat adherent pancreatic beta cell insulinoma cell line derived from a radiation induced transplantable rat islet</p>	<p>diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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203	HHSB165	717	Production of ICAM-1	<p>cell tumor. The cells produce and secrete islet polypeptide hormones, and produce insulin, somatostatin, and possibly glucagon. ATTC: #CRL-2057 Chick et al. Proc. Natl. Acad. Sci. 1977 74:628; AF et al. Proc. Natl. Acad. Sci. 1980 77:3519.</p> <p>Assays for measuring expression of ICAM-1 are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate ICAM-1 expression. Exemplary assays that may be used or routinely modified to measure ICAM-1 expression include assays disclosed in: Rolfe BE, et al., Atherosclerosis, 149(1):99-110 (2000); Panettieri RA Jr, et al., J Immunol, 154(5):2358-2365 (1995); and, Grunstein MM, et al., Am J Physiol Lung Cell Mol Physiol, 278(6):L1154-L1163 (2000), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include Aortic Smooth Muscle Cells (AOSMC); such as bovine AOSMC.</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Vascular Disease, Atherosclerosis, Restenosis, Stroke, and Asthma.</p>
203	HHSB165	717	Regulation of apoptosis in pancreatic beta cells	<p>Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy) and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic</p>

			<p>promote caspase protease-mediated apoptosis. Apoptosis in pancreatic beta is associated with induction and progression of diabetes. Exemplary assays for caspase apoptosis that may be used routinely modified to test caspase apoptosis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Loweth, AC, et al., <i>FEBS Lett</i>, 400(3):285-8 (1997); Saini, KS, et al., <i>Biochem Mol Biol Int</i>, 39(6):1229-36 (1996); Krauthelm, A, et al., <i>Br J Pharmacol</i>, 129(4):687-94 (2000); Chandra J, et al., <i>Diabetes</i>, 50 Suppl 1:S447 (2001); Suk K, et al., <i>J Immunol</i>, 166(7):4481-9 (2001); Tejedo J, et al., <i>FEBS Lett</i>, 459(2):238-43 (1999); Zhang, S, et al., <i>FEBS Lett</i>, 455(3):315-20 (1999); Lee et al., <i>FEBS Lett</i> 485(2-3): 122-126 (2000); Nor et al., <i>J Vasc Res</i> 37(3): 209-218 (2000); and Karsan and Harlan, <i>J Atheroscler Thromb</i> 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include RIN-m. RIN-m is a rat adherent pancreatic beta cell insulinoma cell line derived from a radiation induced transplantable rat islet cell tumor. The cells produce and secrete islet polypeptide hormones, and produce insulin, somatostatin and possibly</p>	<p>neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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204	HHSD153	718	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>glucagon. ATTC: #CRL-2057 Chick et al. Proc. Natl. Acad. Sci. 1977 74:628; AF et al. Proc. Natl. Acad. Sci. 1980 77:3519.</p> <p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malin, Methods in Enzymol 216:362-368 (1992); Henthorn et al. Proc. Natl. Acad. Sci. USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia,</p>
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204	HHSID53	718	Production of IL-5	<p>IL-5 FMA7. Assays for immunomodulatory proteins secreted by TH2 cells, mast cells, basophils, and eosinophils that stimulate eosinophil function and B cell Ig production and promote polarization of CD4+ cells into TH2 cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, stimulate immune cell function, modulate B cell Ig production, modulate immune cell polarization, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-5, and the stimulation of eosinophil function and B cell Ig production. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Ohshima et al.,</p>	<p>neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-5 production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-5 production. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) immunoglobulin production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) immunoglobulin production. A highly preferred indication includes allergy. A highly preferred indication includes asthma. A highly preferred indication includes rhinitis. An additional highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"), and inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include</p>
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205	HHSC09	719	Production of IFN γ using a T cells	<p>Blood 92(9):3338-3345 (1998); Jung et al., Eur J Immunol 25(8):2413-2416 (1995); Mori et al., J Allergy Clin Immunol 106(1 Pt 2):558-564 (2000); and Koning et al., Cytokine 9(6):427-436 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p> <p>IFNγ plays a central role in the immune system and is considered to be a proinflammatory cytokine. IFNγ promotes TH1 and inhibits TH2 differentiation; promotes IgG2a and inhibits IgE secretion; induces macrophage activation; and increases MHC expression. Assays for immunomodulatory proteins produced by T cells and NK cells that regulate a variety of inflammatory activities and inhibit TH2 helper cell functions are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, regulate helper cell function, and/or mediate</p>	<p>benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease.</p>
				<p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease").</p> <p>Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiency (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional preferred indications include</p>	

			<p>humoral or cell-mediated immunity.</p> <p>Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as Interferon gamma (IFNγ), and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., <i>J Clin Lab Anal</i> 8(5):223-233 (1995); Billiau et al., <i>Ann NY Acad Sci</i> 856:22-32 (1998); Boehm et al., <i>Annu Rev Immunol</i> 15:749-795 (1997), and <i>Rheumatology (Oxford)</i> 38(3):214-20 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art.</p> <p>Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>idiopathic pulmonary fibrosis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
206	HHSGL28	720	<p>Upregulation of HLA-DR and activation of T cells</p>	<p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic</p>

			<p>systemic lupus erythematosus, and multiple sclerosis). Assays for immunomodulatory proteins expressed on MHC class II expressing T cells and antigen presenting cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of MHC class II products, such as HLA-DR antigens, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Lamour et al., Clin Exp Immunol 89(2):217-222 (1992); Hurne and Silhvola, Immunol Lett 20(3):217-222 (1989); Gausbacher and Zier, Cell Immunol 117(1):22-34 (1988); and Itoh et al., J Biochem Cytochem 40(11):1675-1683, the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are</p>	<p>lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and alternatively, suppressing a T cell-mediated immune response. A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. An additional preferred indication is infection (e.g., AIDS, and/or as described below under "Infectious Disease").</p>
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			<p>primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>Described indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"), and neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancer, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy.</p>
207	HTLCA24	721	<p>Regulation of viability and proliferation of pancreatic beta cells.</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g. renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment</p>

207	HILCA24	721	<p>invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Friedrichsen BN, et al., <i>Mol Endocrinol</i>, 15(1):136-48 (2001); Huotari MA, et al., <i>Endocrinology</i>, 139(4):1494-9 (1998); Hugl SR, et al., <i>J Biol Chem</i> 1998 Jul 10;273(28):17771-9 (1998), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. <i>Endocrinology</i> 1992, 130:167.</p> <p>Assays for the activation of transcription through the Signal Transducers and Activators of Transcription (STAT6) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT6 transcription factors and modulate the expression of multiple genes. Exemplary assays for transcription through the STAT6 response element that may be used or routinely modified to test STAT6 response element activity of the</p>	<p>(e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
			<p>A highly preferred indication is allergy.</p> <p>Another highly preferred indication is asthma.</p> <p>Additional highly preferred indications include inflammation and inflammatory disorders.</p> <p>Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders").</p> <p>Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below).</p> <p>Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred</p>	

				<p>polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Georas et al., Blood 92(12):4529-4538 (1998); Moffatt et al., Transplantation 69(7):1521-1523 (2000); Currel et al., Eur J Immunol 27(8):1982-1987 (1997); and Masuda et al., J Biol Chem 275(38):29331-29337 (2000), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the HT2 cell line, which is an IL-2 dependent suspension culture of T cells that also respond to IL-4.</p>	<p>indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute myelocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
207	HILCA24	721	<p>Activation of transcription through STAT6 response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the Signal Transducers and Activators of Transcription (STAT6) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT6 transcription factors and modulate the expression of multiple genes. Exemplary assays for transcription through the STAT6 response element that may be used or routinely modified to test STAT6 response element activity of the polypeptides of the invention (including</p>	<p>A highly preferred indication is allergy. Another highly preferred indication is asthma. Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as,</p>

208	HILCA24	722	<p>antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Cene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Georas et al., <i>Blood</i> 92(12):4529-4538 (1998); Moffatt et al., <i>Transplantation</i> 69(7):1521-1523 (2000); Currel et al., <i>Eur J Immunol</i> 27(8):1982-1987 (1997); and Masuda et al., <i>J Biol Chem</i> 275(38):29331-29337 (2000), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.</p> <p>Assays for the regulation of viability and proliferation of cells <i>in vitro</i> are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate viability and proliferation of pancreatic beta cells. For example, the Cell Titer-Glo luminescent cell viability assay measures the number of viable cells in culture based on quantitation of the ATP present which signals the presence of metabolically active cells. Exemplary assays that may be used or routinely modified to test regulation of viability and proliferation of pancreatic beta cells by polypeptides of the</p>	<p>leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease.</p> <p>An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
			<p>A highly preferred indication is diabetes mellitus.</p> <p>An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment</p>	

				<p>invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Friedrichsen BN, et al., <i>Mol Endocrinol</i>, 15(1):136-48 (2001); Huotari MA, et al., <i>Endocrinology</i>, 139(4):1494-9 (1998); Hugl SR, et al., <i>J Biol Chem</i> 1998 Jul 10;273(28):17771-9 (1998), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al., <i>Endocrinology</i> 1992; 130:167.</p>	<p>(e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
208	HILCA24	722	<p>Activation of transcription through STAT6 response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the Signal Transducers and Activators of Transcription (STAT6) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT6 transcription factors and modulate the expression of multiple genes. Exemplary assays for transcription through the STAT6 response element that may be used or routinely modified to test STAT6 response element activity of the</p>	<p>A highly preferred indication is allergy. Another highly preferred indication is asthma. Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred</p>

			<p>polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Georas et al., Blood 92(12):4529-4538 (1998); Moffatt et al., Transplantation 69(7):1521-1523 (2000); Curiel et al., Eur J Immunol 27(8):1982-1987 (1997); and Masuda et al., J Biol Chem 275(38):29331-29337 (2000), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the HT2 cell line, which is an IL-2 dependent suspension culture of T cells that also respond to IL-4.</p>	<p>indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
208	HILCA24	722	<p>Activation of transcription through STAT6 response element in immune cells (such as T-cells).</p>	<p>A highly preferred indication is allergy. Another highly preferred indication is asthma. Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as,</p>

209	HISA167	723	Insulin Secretion	<p>antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Georas et al., <i>Blood</i> 92(12):4529-4538 (1998); Moffatt et al., <i>Transplantation</i> 69(7):1521-1523 (2000); Currel et al., <i>Eur J Immunol</i> 27(8):1982-1987 (1997); and Maanda et al., <i>J Biol Chem</i> 275(38):29331-29337 (2000), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.</p> <p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including</p>	<p>leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease.</p> <p>An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
				<p>A highly preferred indication is diabetes mellitus.</p> <p>An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment</p>	

210	HIBC075	724	<p>antibodies and agonists or antagonists of the invention) include assays disclosed in: Shimizu, H., et al., <i>Endocr J</i>, 47(3):261-9 (2000); Salapatek, A.M., et al., <i>Mol Endocrinol</i>, 13(8):1305-17 (1999); Filipsson, K., et al., <i>Ann N Y Acad Sci</i>, 865:441-4 (1998); Olson, L.K., et al., <i>J Biol Chem</i>, 271(28):16544-52 (1996); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777 Refs: Lord and Ashcroft. <i>Biochem. J</i>, 219: 547-551; Santerre et al. <i>Proc. Natl. Acad. Sci. USA</i> 78: 4339-4343, 1981.</p> <p>Assays for the regulation of viability and proliferation of cells in vitro are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate viability and proliferation of pancreatic beta cells. For</p>	<p>(e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease,</p>
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211	HJMAA03	725	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>example, the Cell Titer-Glo luminescent cell viability assay measures the number of viable cells in culture based on quantitation of the ATP present which signals the presence of metabolically active cells. Exemplary assays that may be used or routinely modified to test regulation of viability and proliferation of pancreatic beta cells by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Friedrichsen BN, et al., Mol Endocrinol, 15(1):136-48 (2001); Huotari MA, et al., Endocrinology, 139(4):1494-9 (1998); Hugl SR, et al., J Biol Chem 1998 Jul 10;273(28):17771-9 (1998), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. Endocrinology 1992 130:167.</p>	<p>stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
				<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications</p>	

			<p>(including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malin, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
211	HJMAA03	725	<p>Stimulation of insulin secretion from</p>	<p>Assays for measuring secretion of insulin are well-known in the art and may be used</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication</p>

		pancreatic beta cells.	<p>or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., <i>Am J Physiol</i>, 277(4 Pt 2):R959-66 (1999); Li, M., et al., <i>Endocrinology</i>, 138(9):3735-40 (1997); Kim, K.H., et al., <i>PEBS Lett</i>, 377(2):237-9 (1995); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible</p>	<p>associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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212	HIMAV41	726	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>insulin secretion. References: Asfari et al. Endocrinology. 1992. 130:167.</p> <p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia.</p>
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212	HJMAV41	726	Production of TNF alpha by T cells	<p>TNFα FMAT: Assays for immunomodulatory proteins produced by activated macrophages, T cells, fibroblasts, smooth muscle, and other cell types that exert a wide variety of inflammatory and cytotoxic effects on a variety of cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate inflammation and cytotoxicity, and mediate humoral and/or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines such as tumor necrosis factor alpha (TNFα), and the induction or inhibition of an inflammatory or cytotoxic response. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Verhasselt et al., Eur J Immunol 28(11):3886-3890 (1998); Dahlen et al., J Immunol 160(7):3585-3593 (1998); Verhasselt et</p>	<p>hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"),</p> <p>Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response.</p> <p>Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic leukemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, asthma,</p>
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213	HJ MAY 90	727	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma,</p>
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213	HIMAY90	727	Production of IL-6	<p>incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p> <p>melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
				<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory</p>

214	HIPBE39	728	<p>Activation of transcription through API response element in immune cells (such as T-cells).</p>	<p>immunomodulation and differentiation and modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhasselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>Assays for the activation of transcription through the API response element are known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate growth and other cell functions. Exemplary assays for transcription through the API response</p>	<p>disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>Preferred indications include neoplastic diseases (e.g., blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and</p>
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214	HIPBE39	728	Activation of transcription through cAMP response element in immune cells (such as T-cells).	<p>element that may be used or routinely modified to test AP1-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1988); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Rellahan et al., J Biol Chem 272(49):30806-30811 (1997); Chang et al., Mol Cell Biol 18(9):4986-4993 (1998); and Fraser et al., Eur J Immunol 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension-culture cell line with cytotoxic activity.</p>	<p>immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.</p>
214	HIPBE39	728	Activation of transcription through cAMP response element in immune cells (such as T-cells).	<p>Assays for the activation of transcription through the cAMP response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to increase cAMP and regulate CREB transcription factors, and modulate expression of genes involved in a wide variety of cell functions. Exemplary assays for transcription through the cAMP response element that may be used or routinely modified to test cAMP-response element activity of polypeptides of the</p>	<p>Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under</p>

214	HIPBE39	728	<p>Activation of transcription through GAS response element in immune cells (such as T-cells).</p>	<p>invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 661-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Genes 15(2):105-117 (1997); and Belkowski et al., J Immunol 161(2):659-665 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>	<p>"Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>	<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and</p>
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214	HIPBE39	728	Activation of transcription through serum response element in immune cells (such as T-cells).	<p>66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Matikainen et al., Blood 93(6):1980-1991 (1999); and Hentinen et al., J Immunol 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary mouse T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the CTLL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>	<p>inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
			<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below</p>	

214	HUPBE39	728	<p>Activation of transcription through CD28 response element in immune cells (such as T-cells).</p>	<p>8516342-6346 (1988); and Black et al., Virus Genes 12(2): 105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-2 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-2 production. Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic</p>
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215	HJPK28	729	<p>Activation of transcription through NFKB response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the NFKB response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFKB transcription factors and modulate expression of immunomodulatory genes. Exemplary assays for transcription through the NFKB response element that may be used or routinely modified to test NFKB-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Gnes 15(2):105-117 (1997); and Fraser et al., 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.</p>	<p>Highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), and immunodeficiencies (e.g., as described below). An additional highly preferred indication is infection (e.g., AIDS, and/or an infectious disease as described below under "Infectious Diseases").</p> <p>Highly preferred indications include neoplastic diseases (e.g., melanoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as melanoma, renal cell carcinoma, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neuropenia, neurophilis, psoriasis, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, suppression of immune reactions to transplanted organs, asthma and allergy.</p>
216	HJPK08	730	<p>Proliferation, differentiation, and/or cytokine production in immune cells (such as T-cells).</p>	<p>Kinase assays, for example kinase assays for members of the MAP kinase family (including p38, JAK, and ERK) are well known in the art and may be used or routinely modified to assess the ability of</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of inflammation, infection, allergy, asthma, autoimmunity, and cancer.</p>

217	HKABU43	731	Activation of Adipocyte ERK Signaling Pathway	<p>polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, differentiation, and/or cytokine production in immune cells such as T-cells. Exemplary assays for MAP kinase family members that may be used or routinely modified to test polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Rincon M., <i>Curr Opin Immunol</i>; 13(3):339-345 (2001); Wang LH, et al., <i>J Immunol</i>, 162(7):3897-3904 (1999); Sakamoto H, et al., <i>J Biol Chem</i>, 275(46):35857-35862 (2000), the contents of each of which are herein incorporated by reference in its entirety. Exemplary immune cells (for example, T-cells) that may be used according to these assays include the mouse CTL cell line.</p> <p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders").</p>
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218	HKAC179	732	<p>Activation of transcription through GAS response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1993); Cullen and Malm,</p>	<p>preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response.</p> <p>Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications</p>
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218	HKAC179	732	Upregulation of CD152 and activation of T cells	<p>Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Markkainen et al., Blood 93(6):1980-1991 (1999); and Hentinen et al., J Immunol 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the SUP7 cell line, that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
				<p>CD152/FMAT. CD152 (a.k.a. CTLA-4) expression is restricted to activated T cells. CD152 is a negative regulator of T cell proliferation. Reduced CD152 expression has been linked to hyperproliferative and autoimmune diseases. Overexpression of CD152 may lead to impaired immunoresponses. Assays for immunomodulatory proteins important in the maintenance of T cell homeostasis and expressed almost exclusively on CD4+ and CD8+ T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, maintain T cell homeostasis, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for</p>	<p>A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally,</p>

			<p>immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD152, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); McCoy et al., <i>Immunol Cell Biol</i> 77(1):1-10 (1999); Oostervegal et al., <i>Curr Opin Immunol</i> 11(3):294-300 (1999); and Saito T, <i>Curr Opin Immunol</i> 10(3):313-321 (1998), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy. An additional preferred indication is infection (e.g., as described below under "Infectious Disease").</p>
218	HKAC179	732	<p>Upregulation of HLA-DR and activation of T cells</p>	<p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and</p>

		<p>expressing T cells and antigen presenting cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of MHC class II products, such as HLA-DR antigens, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Lanour et al., Clin Exp Immunol 89(2):217-222 (1992); Hume and Silvola, Immunol Lett 20(3):217-222 (1989); Gansbacher and Zier, Cell Immunol 117(1):22-34 (1988); and Itoh et al., J Histochem Cytochem 40(11):1675-1683, the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells</p>	<p>alternatively, suppressing a T cell-mediated immune response. A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. An additional preferred indication is infectious (e.g., AIDS, and/or as described below under "Infectious Disease"), and/or as described below under "Endocrine Disorders", and described below under "Endocrine Disorders", and/or as neoplastic diseases (e.g., leukemia, lymphoma, and/or as</p>
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				mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.	described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancer, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy.
219	HKAF50	733	Activation of transcription through CD28 response element in immune cells (such as T-cells).	Assays for the activation of transcription through the CD28 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate IL-2 expression in T cells. Exemplary assays for transcription through the CD28 response element that may be used or routinely modified to test CD28-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); McGuire and Jacobelli, J Immunol 159(3):1319-1327	A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-2 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-2 production. Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. An

(1997); Parra et al., J Immunol 166(4):2437-2443 (2001); and Buscher et al., J Biol Chem 273(1):552-560 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the JURKAT cell line, which is a suspension culture of leukemia cells that produce IL-2 when stimulated.				additional highly preferred indication includes infection (e.g., AIDS, and/or as described below under "Infectious Disease"). Highly preferred indications include neoplastic diseases (e.g., melanoma, renal cell carcinoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, melanoma (e.g., metastatic melanoma), renal cell carcinoma (e.g., metastatic renal cell carcinoma), leukemia, lymphoma (e.g., T cell lymphoma), and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. A highly preferred indication is infection (e.g., tuberculosis, infections associated with granulomatous disease, and osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). A highly preferred indication is AIDS. Additional highly preferred indications include suppression of immune reactions to transplanted organs and/or tissues, uveitis, psoriasis, and tropical spastic paraparesis. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.
Upregulation of CD69 and activation of T cells	733	HKAF50	219	CD69 FMAT. CD69 is an activation marker that is expressed on activated T cells, B cells, and NK cells. CD69 is not

			<p>expressed on resting T cells, B cells, or NK cells. CD69 has been found to be associated with inflammation. Assays for immunomodulatory proteins expressed in T cells, B cells, and leukocytes are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD69, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Ferenczi et al., <i>J Autoimmun</i> 14(1):63-78 (2000); Werfel et al., <i>Allergy</i> 52(4):465-469 (1997); Taylor-Fishwick and Siegel, <i>Eur J Immunol</i> 25(12):3215-3221 (1995); and Alera et al., <i>Ann Rheum Dis</i> 52(6):457-460 (1993), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that</p>	<p>method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for activation B cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating B cells. A highly preferred embodiment of the invention includes a method for activating NK cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting activation of and/or inactivation NK cells. Highly preferred indications include inflammation and inflammatory disorders (e.g., as described below under "Immune Activity"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response and alternatively suppressing a T cell-mediated immune response, and boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. An additional highly preferred indication includes infection (e.g., as described below under "Infectious Disease"). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, asthma, and allergies. Preferred indications also include neoplastic diseases (e.g.,</p>
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220	HKGBF25	734	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia,</p>
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221	HKIXC44	735	Insulin Secretion	<p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Shimizu, H., et al., <i>Endocr J</i>, 47(3):261-9 (2000); Salapatek, A.M., et al., <i>Mol Endocrinol</i>, 13(8):1305-17 (1999); Filipsson, K., et al., <i>Ann NY Acad Sci</i>, 865:441-4 (1998); Olson, L.K., et al., <i>J Biol Chem</i>, 271(28):16544-52 (1996); and, Miraglia S et al., <i>Journal of Biomolecular</i></p>	<p>with cytotoxic activity:</p> <p>thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional</p>
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222	HKMLK03	736	Upregulation of CD69 and activation of T cells	<p>Screening, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777</p> <p>Refs: Lord and Ashcroft. Biochem. J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.</p>	highly preferred indications are complications associated with insulin resistance.
				<p>A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for activation B cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating B cells. A highly preferred embodiment of the invention includes a method for activating NK cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting activation of and/or inactivation NK cells. Highly preferred indications include inflammation and inflammatory disorders (e.g., as described below under "Immune Activity"). Preferred indications include blood disorders (e.g., as described below under "Immune</p>	

223	HKMLM95	737	<p>markers, such as CD69, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Ferenczi et al., <i>J Autoimmun</i> 14(1):63-78 (2000); Werfel et al., <i>Allergy</i> 52(4):465-469 (1997); Taylor-Fishwick and Siegel, <i>Eur J Immunol</i> 25(12):3215-3221 (1995); and Aletra et al., <i>Ann Rheum Dis</i> 52(6):457-460 (1993), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response and alternatively suppressing a T cell-mediated immune response, and boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. An additional highly preferred indication includes infection (e.g., as described below under "Infectious Disease"). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, asthma, and allergies. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
			<p>Production of IFNγ using a T cells</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune</p>

			<p>macrophage activation; and increases MHC expression. Assays for immunomodulatory proteins produced by T cells and NK cells that regulate a variety of inflammatory activities and inhibit TH2 helper cell functions are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, regulate inflammatory activities, modulate TH2 helper cell function, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as Interferon gamma (IFNγ), and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "T lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., J Clin Lab Anal 8(5):225-233 (1995); Billiau et al., Ann NY Acad Sci 836:22-32 (1998); Boehm et al., Annu Rev Immunol 15:749-795 (1997), and Rheumatology (Oxford) 38(3):214-20 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed</p>	<p>Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease"). Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiency (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional preferred indications include idiopathic pulmonary fibrosis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
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			herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.	
224	HKTAB41	738	Insulin Secretion	<p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Shimizu, H., et al., <i>Endocr J</i>, 47(3):261-9 (2000); Salapatek, A.M., et al., <i>Mol Endocrinol</i>, 13(8):1305-17 (1999); Filipsson, K., et al., <i>Ann N Y Acad Sci</i>, 865:441-4 (1998); Olson, L.K., et al., <i>J Biol Chem</i>, 271(28):16544-52 (1996); and, Mingaglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells</p>
			herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>

225	HDBG17	739	Proliferation, differentiation, and/or cytokine production in immune cells (such as T-cells).	<p>that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777</p> <p>Refs: Lord and Ashcroft. Biochem. J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of inflammation, infection, allergy, asthma, autoimmunity, and cancer.</p>
				<p>Kinase assays, for example kinase assays for members of the MAP kinase family (including p38, JAK, and ERK) are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, differentiation, and/or cytokine production in immune cells such as T-cells. Exemplary assays for MAP kinase family members that may be used or routinely modified to test polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Rincon M., Curr Opin Immunol; 13(3):339-345 (2001); Wang LH, et al., J Immunol, 162(7):3897-3904 (1999); Sakamoto H, et al., J Biol Chem, 275(46):55857-55862</p>	

226	HLDCAS4	740	Production of RANTES	<p>(2000), the contents of each of which are herein incorporated by reference in its entirety. Exemplary immune cells (for example, T-cells) that may be used according to these assays include the mouse CTL cell line.</p> <p>RANTES PMAT. Assays for immunomodulatory proteins that induce chemotaxis of T cells, monocytes, and eosinophils are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, induce chemotaxis, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as RANTES, and the induction of chemotactic responses in immune cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Cocchi et al., Science 270(5243):1811-1815 (1995); and Robinson et al., Clin Exp Immunol 101(3):398-407 (1995), the contents of each of which are herein incorporated by reference in its entirety. Human immune cells that may be used according to these</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating RANTES production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) RANTES production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). A most highly preferred indication includes AIDS and/or the prevention or reduction of HIV infection. Additional highly preferred indication includes immune disorders, for example, inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, asthma, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma, and allergy. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms, such as,</p>
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227	HLDOU79	741	Regulation of viability and proliferation of pancreatic beta cells.	Assays for the regulation of viability and proliferation of cells in vitro are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate viability and proliferation of pancreatic beta cells. For example, the Cell Titer-Glo luminescent cell viability assay measures the number of viable cells in culture based on quantitation of the ATP present which signals the presence of metabolically active cells. Exemplary assays that may be used or routinely modified to test regulation of viability and proliferation of pancreatic beta cells by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Friedrichsen BN, et al., Mol Endocrinol, 15(1):136-48 (2001); Huotari MA, et al., Endocrinology, 139(4):1494-9 (1998); Hugl SR, et al., J Biol Chem 1998 Jul 10;273(28):17771-9 (1998), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used	assays may be isolated using techniques disclosed herein or otherwise known in the art.	for example, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and uterine cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.
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227	HLDQU79	741	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. Endocrinology. 1992 130:167.</p> <p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malin, Methods in Enzymol 216:362-368 (1992); Henhorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred</p>
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228	HLDRT09	742	Activation of transcription through serum response element in immune cells (such as T-cells).	2 dependent suspension culture of T cells with cytotoxic activity.	indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").
			Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through		A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred

229	HLHAP05	743	Production of MIP1alpha	<p>the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention includes a method for stimulating MIP1a production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MIP1a production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues.</p>
				<p>MIP-1alpha FMAT. Assays for immunomodulatory proteins produced by activated dendritic cells that upregulate monocyte/macrophage and T cell chemotaxis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate chemotaxis, and modulate T cell differentiation. Exemplary assays that test for immunomodulatory proteins evaluate the production of chemokines, such as macrophage inflammatory protein 1 alpha (MIP-1a), and the activation of monocytes/macrophages and T cells. Such assays that may be used or routinely modified to test immunomodulatory and chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention)</p>	

			include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Eremin, J R Coll Surg Edinb 45(1):9-19 (2001); Drakes et al., Transp Immunol 8(1):17-29 (2000); Verhasselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.	hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.
229	HILHAP05	743	Regulation of transcription through the FAS promoter element in hepatocytes	<p>Assays for the regulation of transcription through the FAS promoter element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to activate the FAS promoter element in a reporter construct and to regulate transcription of FAS, a key enzyme for lipogenesis. FAS promoter is regulated by many transcription factors including SREBP. Insulin increases FAS gene transcription in livers of diabetic mice. This stimulation of transcription is also somewhat glucose dependent. Exemplary assays that may be used or routinely modified to test for FAS</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment</p>

				<p>promoter element activity (in hepatocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Xiong, S., et al., Proc Natl Acad Sci U.S.A., 97(8):3948-53 (2000); Roder, K., et al., Eur J Biochem, 260(3):743-51 (1999); Oskouian B, et al., Biochem J, 317 (Pt 1):257-65 (1996); Berger, et al., Gene 66:1-10 (1988); and, Cullen, B., et al., Methods in Enzymol. 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety. Hepatocytes that may be used according to these assays, such as H4IIE cells, are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary hepatocytes that may be used according to these assays include rat liver hepatoma cell line(s) inducible with glucocorticoids, insulin, or cAMP derivatives.</p>	<p>(e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
230	HLHCS23	744	<p>Regulation of viability and proliferation of pancreatic beta cells.</p>	<p>Assays for the regulation of viability and proliferation of cells in vitro are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate viability and proliferation of pancreatic beta cells. For example, the Cell Titer-Glo luminescent cell viability assay measures the number of viable cells in culture based on quantitation of the ATP present which signals the presence of metabolically active cells. Exemplary assays that may be used or routinely modified to test</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia.</p>

230	HLHCS23	744	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>regulation of viability and proliferation of pancreatic beta cells by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ohiani KI, et al., <i>Endocrinology</i>, 139(1):172-8 (1998); Krauthaim A, et al., <i>Exp Clin Endocrinol Diabetes</i>, 107 (1):29-34 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT T15 Cells. HIT T15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777 Refs: Lord and Ashcroft. <i>Biochem. J.</i> 219: 547-551; Santerre et al. <i>Proc. Natl. Acad. Sci. USA</i> 78: 4339-4343, 1981.</p>	<p>endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
230	HLHCS23	744	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple</p>

230	HLHCS23	744	Production of IFN γ using a T cells	<p>transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neuropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or</p>
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				<p>MHC expression. Assays for immunomodulatory proteins produced by T cells and NK cells that regulate a variety of inflammatory activities and inhibit TH2 helper cell functions are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, regulate inflammatory activities, modulate TH2 helper cell function, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as Interferon gamma (IFNγ), and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "T-lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., <i>J Clin Lab Anal</i> 8(5):225-233 (1995); Billiau et al., <i>Ann NY Acad Sci</i> 856:22-32 (1998); Bochim et al., <i>Ann Rev Immunol</i> 15:749-795 (1997), and <i>Rheumatology (Oxford)</i> 38(3):214-20 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art.</p>
				<p>"Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease"). Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiency (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional preferred indications include idiopathic pulmonary fibrosis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>

231	HLJB072	745	<p>Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p> <p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malin, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is episis.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic</p>
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232	HLICE88	746	Activation of transcription through serum response element in immune cells (such as T-cells).	Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henhorth et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays	anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").
				A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example,	

				include the CTL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.	hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").
232	HLICE88	746	Stimulation of insulin secretion from pancreatic beta cells.	Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., <i>Am J Physiol</i> , 277(4 Pt 2):R959-66 (1999); Li, M., et al., <i>Endocrinology</i> , 138(9):3735-40 (1997); Kim, K.H., et al., <i>FEBS Lett.</i> 377(2):237-9 (1995); and, Mfraglia S. et al., <i>Journal of</i>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with</p>

				<p>Biomolecular Screening, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. Endocrinology 1992 130:167.</p>	<p>obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
233	HLIC010	747	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al.,</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally,</p>

			<p>Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p>
234	HLJBS28	748	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm,</p>

235	HLMBW89	749	Upregulation of CD154 and activation of T cells	<p>Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., AIDS). Preferred indications include boosting a T cell-mediated immune response, and</p>
255	HLMBW89	749	Upregulation of CD154 and activation of T cells	<p>CD154 EMAT. CD154 (a.k.a., CD40L) expression is induced following activation of T cells. Interaction between CD154 and CD40 on B cells is required for correct antibody class switching and germinal center formation. Mutations in CD154 are linked to immunodeficiencies and increased susceptibility to infections. Assays for immunomodulatory proteins important for antibody class switching and TH1 function and expressed on activated T helper lymphocytes are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the</p>	<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., AIDS). Preferred indications include boosting a T cell-mediated immune response, and</p>

			<p>invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, modulate antibody class switching, mediate TH1 function, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD154, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Mackey et al., J Leukoc Biol 63(4):418-428 (1998); and Skov et al., 164(7):3500-3505 (2000), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>alternatively, suppressing a T cell-mediated immune response. Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy.</p>
236	HLMGF50	750	<p>Upregulation of HLA-DR and activation of T cells</p>	<p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular</p>

		<p>been associated with autoimmune diseases (e.g., diabetes, rheumatoid arthritis, systemic lupus erythematosus, and multiple sclerosis). Assays for immunomodulatory proteins expressed on MHC class II expressing T cells and antigen presenting cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, and/or mediate humoral or cell-mediated immunity.</p> <p>Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of MHC class II products, such as HLA-DR antigens, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Lamour et al., Clin Exp Immunol 89(2):217-222 (1992); Hume and Sihvola, Immunol Lett 20(3):217-222 (1989); Gansbacher and Zier, Cell Immunol 117(1):22-34 (1988); and Itoh et al., J Histochem Cytochem 40(11):1675-1683, the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using</p>	<p>Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and alternatively, suppressing a T cell-mediated immune response. A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypersmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein.</p>	An
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				<p>techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>additional preferred indication is infection (e.g., AIDS, and/or as described below under "Infectious Disease"). Preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"), and neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancer, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy.</p>
237	HLMJB64	751	<p>Activation of transcription through API response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the API response element are known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate growth and other cell functions. Exemplary assays for transcription through the API response element that may be used or routinely modified to test API-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene</p>	<p>Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred</p>

237	HLMIB64	751	<p>Activation of transcription through cAMP response element in immune cells (such as T-cells).</p>	<p>66:1-10 (1988); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Rellahan et al., J Biol Chem 272(49):30806-30811 (1997); Chang et al., Mol Cell Biol 18(9):4986-4993 (1998); and Fraser et al., Eur J Immunol 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension-culture cell line with cytotoxic activity.</p> <p>Assays for the activation of transcription through the cAMP response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to increase cAMP and regulate CREB transcription factors, and modulate expression of genes involved in a wide variety of cell functions. Exemplary assays for transcription through the cAMP response element that may be used or routinely modified to test cAMP-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA</p>	<p>indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.</p>
				<p>Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary</p>	

237	HLMIB64	751	Activation of transcription through GAS response element in immune cells (such as T-cells).	<p>85:6342-6346 (1988); Black et al., <i>Virus Genes</i> 15(2):105-117 (1997); and Belkowski et al., <i>J Immunol</i> 161(2):659-665 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p> <p>Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p> <p>Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Mäkitäinen et al., <i>Blood</i> 93(6):1980-1991 (1999); and Henttinen et al., <i>J Immunol</i> 155(10):4582-</p>	<p>cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis,</p>
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			<p>4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary mouse T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the CTLL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>		<p>and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
237	HLMJB64	751	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through</p>		<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred</p>

237	HLMIB64	751	<p>Activation of transcription through CD28 response element in immune cells (such as T-cells).</p>	<p>the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-2 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-2 production. Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. An additional highly preferred indication includes infection (e.g., AIDS, and/or as described below under "Infectious Disease").</p>
			<p>Assays for the activation of transcription through the CD28 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate IL-2 expression in T cells. Exemplary assays for transcription through the CD28 response element that may be used or routinely modified to test CD28-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malin, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); McGuire and Jacobelli, <i>J Immunol</i> 159(3):1319-1327 (1997); Parra et al., <i>J Immunol</i> 166(4):2437-2443 (2001); and Bauscher et</p>		

			al., J Biol Chem 3(0):552-560 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the JURKAT cell line, which is a suspension culture of leukemia cells that produce IL-2 when stimulated.	<p>Disease". Highly preferred indications include neoplastic diseases (e.g., melanoma, renal cell carcinoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, melanoma (e.g., metastatic melanoma), renal cell carcinoma (e.g., metastatic renal cell carcinoma), leukemia, lymphoma (e.g., T cell lymphoma), and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. A highly preferred indication is infection (e.g., tuberculosis, infections associated with granulomatous disease, and osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). A highly preferred indication is AIDS. Additional highly preferred indications include suppression of immune reactions to transplanted organs and/or tissues, uveitis, psoriasis, and tropical spastic paraparesis. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic leukemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the</p>
238	HLMX62	752	Activation of Adipocyte ERK Signaling Pathway	<p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to</p>

			<p>assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brusel Y, <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increased) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"). Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the</p>
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239	HLQAS12	753	Production of GM-CSF	<p>GM-CSF PMAT. GM-CSF is expressed by activated T cells, macrophages, endothelial cells, and fibroblasts. GM-CSF regulates differentiation and proliferation of granulocytes; macrophage progenitors and enhances antimicrobial activity in neutrophils, monocytes and macrophage. Additionally, GM-CSF plays</p>	<p>"Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating the production of GM-CSF. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of GM-CSF. Highly preferred indications include inflammation and inflammatory disorders. An additional highly preferred indication is infection (e.g., as described below under "Infectious Disease"). Highly preferred</p>
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			<p>an important role in the differentiation of dendritic cells and monocytes, and increases antigen presentation. GM-CSF is considered to be a proinflammatory cytokine. Assays for immunomodulatory proteins that promote the production of GM-CSF are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and modulate the growth and differentiation of leukocytes. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as GM-CSF, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., <i>J. Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Ye et al., <i>J. Leukoc. Biol.</i> (58(2):225-233, the contents of each of which are herein incorporated by reference in its entirety. Natural killer cells that may be used according to these assays are publicly available (e.g., through the ATCC) or may be isolated using techniques disclosed herein or otherwise known in the art. Natural killer (NK) cells are large granular lymphocytes that have cytotoxic activity but do not bind antigen. NK cells show antibody-independent killing of</p>	<p>indications include blood disorders (e.g., neutropenia (and the prevention of neutropenia (e.g., in HIV infected patients), and/or as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications also include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include asthma. Highly preferred indications include neoplastic diseases (e.g., leukemia (e.g., acute lymphoblastic leukemia, and acute myelogenous leukemia), lymphoma (e.g., non-Hodgkin's lymphoma and Hodgkin's disease), and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications include: suppression of immune reactions to transplanted organs and tissues (e.g., bone marrow transplant); accelerating myeloid recovery; and mobilizing hematopoietic progenitor cells. Preferred indications include boosting a T cell-mediated immune response, and alternatively, suppressing a T cell-mediated immune response. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutrophilia, psoriasis, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and allergy.</p>
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240	HLQCL64	754	Upregulation of CD69 and activation of T cells	<p>tumor cells and also recognize antibody bound on target cells, via NK Fc receptors, leading to cell-mediated cytotoxicity.</p> <p>CD69 FMAT. CD69 is an activation marker that is expressed on activated T cells, B cells, and NK cells. CD69 is not expressed on resting T cells, B cells, or NK cells. CD69 has been found to be associated with inflammation. Assays for immunomodulatory proteins expressed in T cells, B cells, and leukocytes are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD69, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Ferenczi et al., J Autoimmun 14(1):63-78 (2000); Werfel et al., Allergy 52(4):465-469 (1997); Taylor-Fishwick and Siegel, Eur J Immunol 25(12):3215-3221 (1995); and Aletta et al., Ann Rheum Dis 52(6):457-460 (1993), the contents of each of which</p>	<p>A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for activating B cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating B cells. A highly preferred embodiment of the invention includes a method for activating NK cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting activation of and/or inactivation NK cells. Highly preferred indications include inflammation and inflammatory disorders (e.g., as described below under "Immune Activity"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response and alternatively suppressing a T cell-mediated immune response, and boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. An additional highly preferred indication includes infection (e.g., as described below under "Infectious Disease"). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic leukemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia,</p>
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				<p>are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, asthma, and allergies. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
241	HLQX36	755	<p>Activation of Skeletal Muscle Cell P13 Kinase Signalling Pathway</p>	<p>Kinase assay. Kinase assays, for example an GSK-3 Kinase assay, for P13 kinase signal transduction that regulate glucose metabolism and cell survival are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit glucose metabolism and cell survival. Exemplary assays for P13 kinase activity that may be used or routinely modified to test P13 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Nikouline et al., <i>Diabetes</i> 49(2):263-271 (2000); and Schreyer et al., <i>Diabetes</i> 48(8):1662-1666 (1999), the contents of each of which are herein incorporated by reference in its entirety. Rat myoblast cells that may be used</p>	<p>A highly preferred embodiment of the invention includes a method for increasing muscle cell survival. An alternative highly preferred embodiment of the invention includes a method for decreasing muscle cell survival. A preferred embodiment of the invention includes a method for stimulating muscle cell proliferation. In a specific embodiment, skeletal muscle cell proliferation is stimulated. An alternative highly preferred embodiment of the invention includes a method for inhibiting muscle cell proliferation. In a specific embodiment, skeletal muscle cell proliferation is inhibited. A preferred embodiment of the invention includes a method for stimulating muscle cell differentiation. In a specific embodiment, skeletal muscle cell differentiation is stimulated. An alternative highly preferred embodiment of the invention includes a method for inhibiting muscle cell differentiation. In a specific embodiment, skeletal muscle cell differentiation is inhibited. Highly preferred indications include disorders of the musculoskeletal system. Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), endocrine disorders (e.g., as described below under "Endocrine Disorders"), neural disorders (e.g., as described below under "Neural Activity</p>

				<p>according to these assays are publicly available (e.g., through the ATCC). Exemplary rat myoblast cells that may be used according to these assays include L6 cells. L6 is an adherent rat myoblast cell line, isolated from primary cultures of rat thigh muscle, that fuses to form multinucleated myotubes and striated fibers after culture in differentiation media.</p>	<p>and Neurological Diseases"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infections (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal system including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred</p>
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242	HLWAF06	756	Activation of Adipocyte ERK Signaling Pathway	<p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brustel Y, <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may</p>	<p>indications include: myopathy, atrophy, congestive heart failure, cachexia, myxomas, fibromas, congenital cardiovascular abnormalities, heart disease, cardiac arrest, heart valve disease, and vascular disease. Highly preferred indications include neoplasms and cancer, such as, rhabdomyoma, rhabdrosarcoma, stomach, esophageal, prostate, and urinary cancer. Preferred indications also include breast, lung, colon, pancreatic, brain, and liver cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"). Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity</p>
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			<p>be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy, and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)).</p> <p>An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and</p>
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243	HLWAU42	757	Production of ICAM-1	<p>Assays for measuring expression of ICAM-1 are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate ICAM-1 expression. Exemplary assays that may be used or routinely modified to measure ICAM-1 expression include assays disclosed in: Takacs P, et al, FASEB J, 15(2):279-281 (2001); and, Miyamoto K, et al., Am J Pathol, 156(5):1733-1739 (2000), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include microvascular endothelial cells (MVEC).</p>	<p>breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Inflammation, Vascular Disease, Atherosclerosis, Restenosis, and Stroke</p>
244	HLWAU42	758	Production of ICAM-1	<p>Assays for measuring expression of ICAM-1 are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate ICAM-1 expression. Exemplary assays that may be used or routinely</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Inflammation, Vascular Disease, Atherosclerosis, Restenosis, and Stroke</p>

245	HLWAV47	759	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>modified to measure ICAM-1 expression include assays disclosed in: Takacs P, et al, FASEB J, 15(2):279-281 (2001); and, Miyamoto K, et al., Am J Pathol, 156(5):1733-1739 (2000), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include microvascular endothelial cells (MVEC).</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal,</p>
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				<p>assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
246	HLWB73	760	Production of IL-6	<p>IL-6 FMT: IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases. Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used, or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include</p>

247	HLWCN37	761	<p>Production of IFNγ using a T cells</p>	<p>Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhasselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease").</p>
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			<p>helper cell functions are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, regulate inflammatory activities, modulate TH2 helper cell function, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as Interferon gamma (IFNγ), and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., <i>J Clin Lab Anal</i> 8(5):225-233 (1995); Billian et al., <i>Ann NY Acad Sci</i> 836:22-32 (1998); Boehm et al., <i>Annu Rev Immunol</i> 15:749-795 (1997), and <i>Rheumatology (Oxford)</i> 38(3):214-20 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or</p>	<p>Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional preferred indications include idiopathic pulmonary fibrosis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
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248	HLWDB73	762	Activation of Skeletal Muscle Cell ERK Signalling Pathway	<p>cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p> <p>Kinase assay. Kinase assays, for example Elk-1 kinase assays, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Porre et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brustel Y., <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Rat myoblast cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat myoblast cells that may be used according to these assays include L6 cells. L6 is an adherent rat myoblast cell line, isolated from primary cultures of rat thigh muscle, that fuses to form multinucleated myotubes and striated</p>	<p>Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders") and disorders of the musculoskeletal system. Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly</p>
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				fibers after culture in differentiation media	<p>preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p> <p>Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein.</p> <p>Additional highly preferred indications include: myopathy, atrophy, congestive heart failure, cachexia, myxomas, fibromas, congenital cardiovascular abnormalities, heart disease, cardiac arrest, heart valve disease, and vascular disease.</p> <p>Highly preferred indications include neoplasms and cancer, such as, rhabdomyoma, rhabdomyosarcoma, stomach, esophageal, prostate, and urinary cancer. Highly preferred indications also include breast, lung, colon, pancreatic, brain, and liver cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, hyperplasia, metaplasia, and/or dysplasia.</p>
249	HLXDF73	763	Insulin Secretion	<p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including</p>	<p>A highly preferred indication is diabetes mellitus.</p> <p>An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment</p>

250	HLYEU59	764	Activation of transcription through API response element in immune cells (such as T-cells).	<p>antibodies and agonists or antagonists of the invention) include assays disclosed in: Shimizu, H., et al., <i>Endocr J</i>, 47(3):261-9 (2000); Salapatek, A.M., et al., <i>Mol Endocrinol</i>, 13(8):1305-17 (1999); Filipsson, K., et al., <i>Ann N Y Acad Sci</i>, 865:441-4 (1998); Olson, L.K., et al., <i>J Biol Chem</i>, 271(28):16544-52 (1996); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777 Refs: Lord and Ashcroft. <i>Biochem J</i>, 219: 547-551; Santerre et al. <i>Proc. Natl. Acad. Sci. USA</i> 78:4339-4343, 1981.</p> <p>Assays for the activation of transcription through the API response element are known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate growth and other cell functions. Exemplary assays for</p>	<p>(e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>	
				<p>Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus,</p>		

251	HLVGB19	765	Activation of Skeletal Muscle Cell P13 Kinase Signalling Pathway	<p>transcription through the API response element that may be used or routinely modified to test API-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1988); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Rellahan et al., J Biol Chem 272(49):30806-30811 (1997); Chang et al., Mol Cell Biol 18(9):4986-4993 (1998); and Fraser et al., Eur J Immunol 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. Mouse T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the HT2 cell line, which is an IL-2 dependent suspension culture cell line that also responds to IL-4.</p> <p>Kinase assay. Kinase assays, for example an GSK-3 kinase assay, for P13 kinase signal transduction that regulate glucose metabolism and cell survival are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit glucose metabolism and cell survival. Exemplary assays for P13 kinase activity that may be used or routinely modified to test P13 kinase-induced activity of</p>	<p>multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.</p>
				<p>A highly preferred embodiment of the invention includes a method for increasing muscle cell survival. An alternative highly preferred embodiment of the invention includes a method for decreasing muscle cell survival.</p> <p>A preferred embodiment of the invention includes a method for stimulating muscle cell proliferation. In a specific embodiment, skeletal muscle cell proliferation is stimulated. An alternative highly preferred embodiment of the invention includes a method for inhibiting muscle cell proliferation. In a specific embodiment, skeletal muscle cell proliferation is inhibited. A preferred embodiment of the invention includes a method for stimulating muscle cell differentiation. In a specific embodiment, skeletal</p>	

			<p>polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Nikoulina et al., <i>Diabetes</i> 49(2):263-271 (2000); and Schreyer et al., <i>Diabetes</i> 48(8):1662-1666 (1999), the contents of each of which are herein incorporated by reference in its entirety. Rat myoblast cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat myoblast cells that may be used according to these assays include L6 cells. L6 is an adherent rat myoblast cell line, isolated from primary cultures of rat thigh muscle, that fuses to form multinucleated myotubes and striated fibers after culture in differentiation media.</p>	<p>muscle cell differentiation is stimulated. An alternative highly preferred embodiment of the invention includes a method for inhibiting muscle cell differentiation in a specific embodiment, skeletal muscle cell differentiation is inhibited. Highly preferred indications include disorders of the musculoskeletal system. Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), endocrine disorders (e.g., as described below under "Endocrine Disorders"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic neuropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infections (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and</p>
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251	HLYGB19	765	Upregulation of CD152 and activation of T cells	<p>CD152 FMAT. CD152 (a.k.a. CTLA-4) expression is restricted to activated T cells. CD152 is a negative regulator of T cell proliferation. Reduced CD152 expression has been linked to hyperproliferative and autoimmune diseases. Overexpression of CD152 may lead to impaired immunoresponses. Assays for immunomodulatory proteins important in the maintenance of T cell homeostasis and expressed almost exclusively on CD4+ and CD8+ T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to</p>	<p>skin), camp tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal system including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include: myopathy, atrophy, congestive heart failure, cachexia, myxomas, fibromas, congenital cardiovascular abnormalities, heart disease, cardiac arrest, heart valve disease, and vascular disease. Highly preferred indications include neoplasms and cancer, such as, rhabdomyoma, rhabdosarcoma, stomach, esophageal, prostate, and urinary cancer. Preferred indications also include breast, lung, colon, pancreatic, brain, and liver cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and</p>
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			<p>modulate the activation of T cells, maintain T cell homeostasis, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD152, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); McCoy et al., Immunol Cell Biol 77(1):1-10 (1999); Oosterveeg et al., Curr Opin Immunol 11(3):294-300 (1999); and Saito T, Curr Opin Immunol 10(3):313-321 (1998), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>suppressing a T cell-mediated immune response. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy. An additional preferred indication is infection (e.g., as described below under "Infectious Disease").</p>
252	HL YGE16	766	<p>Activation of transcription through serum response element in immune cells (such</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g.,</p>

		as T-cells).	<p>ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to bind the serum response factor and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types.</p> <p>Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>increasing TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
252	HL YGE16	766	<p>Assays for the activation of transcription</p>	<p>A highly preferred indication is allergy.</p>
				Another

253	HLGY91	767	Insulin Secretion	<p>transcription through STAT6 response element in immune cells (such as natural killer cells).</p>	<p>through the Signal Transducers and Activators of Transcription (STAT6) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT6 transcription factors and modulate the expression of multiple genes. Exemplary assays for transcription through the STAT6 response element that may be used or routinely modified to test STAT6 response element activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Georas et al., Blood 92(12):4529-4538 (1998); Moffatt et al., Transplantation 69(7):1521-1523 (2000); Curiel et al., Eur J Immunol 27(8):1982-1987 (1997); and Masuda et al., J Biol Chem 275(38):29331-29337 (2000), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat natural killer cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>highly preferred indications is asthma. Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. Additional preferred indications include infection (e.g., an infectious disease as described below under "Infectious Disease").</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy).</p>
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			<p>of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Shimizu, H., et al., <i>Endocr J</i>, 47(3):261-9 (2000); Salapatek, A.M., et al., <i>Mol Endocrinol</i>, 13(8):1305-17 (1999); Filipsson, K., et al., <i>Ann NY Acad Sci</i>, 865:441-4 (1998); Olson, L.K., et al., <i>J Biol Chem</i>, 271(28):16544-52 (1996); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is</p>	<p>diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypersomnolent coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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254	HMC4Z04	768	<p>Activation of Adipocyte ERK Signaling Pathway</p>	<p>stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777 Refs: Lord and Ashcroft. Biochem. J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.</p> <p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., Biol Chem 379(8-9): 1101-1110 (1998); Le Marchand-Brustel Y, Exp Clin Endocrinol Diabetes 107(2): 126-132 (1999); Kyriakis JM, Biochem Soc Symp 64:29-48 (1999); Chang and Karin. Nature 410(6824):37-40 (2001); and Cobb MH, Prog Biophys Mol Biol 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an</p>	<p>stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777 Refs: Lord and Ashcroft. Biochem. J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.</p> <p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., Biol Chem 379(8-9): 1101-1110 (1998); Le Marchand-Brustel Y, Exp Clin Endocrinol Diabetes 107(2): 126-132 (1999); Kyriakis JM, Biochem Soc Symp 64:29-48 (1999); Chang and Karin. Nature 410(6824):37-40 (2001); and Cobb MH, Prog Biophys Mol Biol 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"). Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy).</p>
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				<p>adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypersmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallsstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign</p>
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255	HMCX04	769	Activation of Adipocyte ERK Signaling Pathway	<p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brustel Y, <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation</p>	<p>dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders").</p> <p>Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders", immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic</p>
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				<p>and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art</p>	<p>neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternately, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
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256	HMC4Z04	770	Activation of Adipocyte ERK Signaling Pathway	<p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brustel Y. <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999), the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"). Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy) or</p>
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257	HMCAD4	771	Activation of Adipocyte ERK Signaling Pathway	Kinase assay. Kinase assays for example an Elk-1 Kinase assay, for ERK signal transduction that regulate cell proliferation	<p>blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypotension, coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity.</p> <p>Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer.</p> <p>Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
					<p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the</p>

			<p>or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9): 1101-1110 (1998); Le Marchand-Brustel Y, <i>Exp Clin Endocrinol Diabetes</i> 107(2): 126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders").</p> <p>Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease,</p>
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258	HMAZ04	772	<p>atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte</p>
			<p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the</p>

		<p>invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brusel Y, <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"). Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia.</p>
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259	HMCFH60	773	<p>Activation of transcription through API response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the API response element are known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate growth and other cell functions. Exemplary assays for transcription through the API response</p>	<p>endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and</p>
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259	HMCFH60	773	<p>Activation of transcription through GAS response element in immune cells (such as T-cells).</p>	<p>element that may be used or routinely modified to test API-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1988); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Rellahan et al., <i>J Biol Chem</i> 272(49):30806-30811 (1997); Chang et al., <i>Mol Cell Biol</i> 18(9):4986-4993 (1998); and Fraser et al., <i>Eur J Immunol</i> 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTL1 cell line, which is an IL-2 dependent suspension-culture cell line with cytotoxic activity.</p>	<p>immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.</p>
				<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkins disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described</p>	

259	HMCFH60	773	<p>activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 661-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henhorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Matikainen et al., Blood 93(6):1980-1991 (1999); and Henttinen et al., J Immunol 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the SUP T cell line, that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders") and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
			<p>Assays for the activation of transcription through the Signal Transducers and Activators of Transcription (STAT6) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT6 transcription factors and modulate the expression of multiple genes. Exemplary assays for transcription through the STAT6 response element that may be used or routinely modified to test STAT6 response element activity of the polypeptides of the invention (including</p>	<p>A highly preferred indication is allergy. Another highly preferred indication is asthma. Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as,</p>

259	HMCfh60	773	<p>antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Georas et al., Blood 92(12):4529-4538 (1998); Moffatt et al., Transplantation 69(7):1521-1523 (2000); Currel et al., Eur J Immunol 27(8):1982-1987 (1997); and Masuda et al., J Biol Chem 275(38):29331-29337 (2000), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.</p>	<p>leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
			<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p>

260	HMDAB29	774	<p>Regulation of viability and proliferation of pancreatic beta cells.</p>	<p>Berger et al., Gene 66:1-10 (1998), Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
			<p>Assays for the regulation of viability and proliferation of cells in vitro are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate viability and proliferation of pancreatic beta cells. For example, the Cell Titer-Glo luminescent cell viability assay measures the number of viable cells in culture based on quantitation of the ATP present which signals the presence of metabolically active cells. Exemplary assays that may be</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the</p>	

260	HMDAB29	774	Insulin Secretion	<p>used or routinely modified to test regulation of viability and proliferation of pancreatic beta cells by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ohtani KI, et al., <i>Endocrinology</i>, 139(1):172-8 (1998); Krauthaim A, et al, <i>Exp Clin Endocrinol Diabetes</i>, 107 (1):29-34 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777</p> <p>Refs: Lord and Ashcroft. <i>Biochem. J.</i> 219: 547-551; Santerre et al. <i>Proc. Natl. Acad. Sci. USA</i> 78: 4339-4343, 1981.</p> <p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from</p>	<p>"Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or</p>
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			<p>pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Shimizu, H., et al., <i>Endocr J.</i> 47(3):261-9 (2000); Salapatek, A.M., et al., <i>Mol Endocrinol</i>, 13(8):1305-17 (1999); Filipsson, K., et al., <i>Ann N Y Acad Sci</i>, 865:441-4 (1998); Olson, L.K., et al., <i>J Biol Chem</i>, 271(28):16544-52 (1996); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777</p> <p>Refs: Lord and Ashcroft. <i>Biochem. J.</i> 219: 547-551; Santerre et al. <i>Proc. Natl. Acad. Sci. USA</i> 78: 4339-4343, 1981.</p>	<p>blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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260	IMDAB29	774	Upregulation of CD152 and activation of T cells	<p>CD152 FMAT. CD152 (a.k.a. CTLA-4) expression is restricted to activated T cells. CD152 is a negative regulator of T cell proliferation. Reduced CD152 expression has been linked to hyperproliferative and autoimmune diseases. Overexpression of CD152 may lead to impaired immunoresponses. Assays for immunomodulatory proteins important in the maintenance of T cell homeostasis and expressed almost exclusively on CD4+ and CD8+ T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, maintain T cell homeostasis, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD152, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); McCoy et al., Immunol Cell Biol 77(1):1-10 (1999); Oosterveeg et al., Curr Opin Immunol 11(3):294-300 (1999); and Sato T, Curr Opin Immunol 10(3):313-321 (1998), the contents of each of which</p>	<p>A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy. An</p>
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261	HMDAD4	775	Regulation of transcription via DMEF1 response element in adipocytes and pre-adipocytes	are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.	additional preferred indication is infection (e.g., as described below under "Infectious Disease").
			Assays for the regulation of transcription through the DMEF1 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to activate the DMEF1 response element in a reporter construct (such as that containing the GLUT4 promoter) and to regulate insulin production. The DMEF1 response element is present in the GLUT4 promoter and binds to MEK2 transcription factor and another transcription factor that is required for insulin regulation of Glut4 expression in skeletal muscle. GLUT4 is the primary insulin-responsive glucose transporter in fat and muscle tissue. Exemplary assays that may be used or routinely modified to test for DMEF1 response element activity (in adipocytes and pre-adipocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Thai, M.V., et al., J Biol Chem,	A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, arteriosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include	

261	HMDAD44	775	Production of MCP-1	<p>273(23):14285-92 (1998); Mora, S., et al., J Biol Chem, 275(21):16323-8 (2000); Liu, M.L., et al., J Biol Chem, 269(45):28514-21 (1994); "Identification of a 30-base pair regulatory element and novel DNA binding protein that regulates the human GLUT4 promoter in transgenic mice", J Biol Chem, 2000 Aug 4;275(31):23666-73; Berger, et al., Gene 66:1-10 (1988); and, Cullen, B., et al., Methods in Enzymol, 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety. Adipocytes and pre-adipocytes that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include the mouse 3T3-L1 cell line which is an adherent mouse preadipocyte cell line. Mouse 3T3-L1 cells are a continuous substrain of 3T3 fibroblasts developed through clonal isolation. These cells undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation culture conditions.</p> <p>MCP-1 FMAT. Assays for immunomodulatory proteins that are produced by a large variety of cells and act to induce chemotaxis and activation of monocytes and T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, induce chemotaxis,</p>	<p>weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) MCP-1 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MCP-1 production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or</p>
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261	HMDAD4	775	<p>and modulate immune cell activation. Exemplary assays that test for immunomodulatory proteins evaluate the production of cell surface markers, such as monocyte chemoattractant protein (MCP), and the activation of monocytes and T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Eremin, J R Coll Surg Edin 45(1):9-19 (2001); and Verhaselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>"Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis (bacterial and viral), Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
			<p>TNFα FMAT. Assays for immunomodulatory proteins produced by activated macrophages, T cells, fibroblasts, smooth muscle, and other cell types that exert a wide variety of inflammatory and cytotoxic effects on a variety of cells are well known in the art and may be used or</p>	<p>A highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-</p>

				<p> routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate inflammation and cytotoxicity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines such as tumor necrosis factor alpha (TNFα), and the induction or inhibition of an inflammatory or cytotoxic response. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Verhasselt et al., Eur J Immunol 28(11):3886-3890 (1998); Dahlen et al., J Immunol 160(7):3585-3593 (1998); Verhasselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities. </p>	<p> Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). </p>
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262	HMEBB82	776	Production of MIP-1alpha	<p>MIP-1alpha FMT: Assays for immunomodulatory proteins produced by activated dendritic cells that upregulate monocyte/macrophage and T cell chemotaxis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate chemotaxis, and modulate T cell differentiation. Exemplary assays that test for immunomodulatory proteins evaluate the production of chemokines, such as macrophage inflammatory protein 1 alpha (MIP-1a), and the activation of monocytes/macrophages and T cells. Such assays that may be used or routinely modified to test immunomodulatory and chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Erentin, J R Coll Surg Edinb 45(1):9-19 (2001); Drakes et al., Transp Immunol 8(1):17-29 (2000); Verhasselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating MIP-1a production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MIP-1a production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity"; "Blood-Related Disorders"; and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilis, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
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263	HMED24	777	Activation of transcription through NFAT response element in immune cells (such as T-cells).	<p>art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>Assays for the activation of transcription through the Nuclear Factor of Activated T cells (NFAT) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFAT transcription factors and modulate expression of genes involved in immunomodulatory functions. Exemplary assays for transcription through the NFAT response element that may be used or routinely modified to test NFAT-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Serfling et al., Biochim Biophys Acta 1498(1):1-18 (2000); De Boer et al., Int J Biochem Cell Biol 31(10):1221-1236 (1999); Fraser et al., Eur J Immunol 29(3):838-844 (1999); and Yescen et al., J Biol Chem 268(19):14285-14293 (1993), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the</p>	<p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response.</p> <p>Additional highly preferred indications include inflammation and inflammatory disorders. An additional highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
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264	HMED190	778	<p>Regulation of transcription of Malic Enzyme in adipocytes</p>	<p>ATCC). Exemplary human T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.</p> <p>Assays for the regulation of transcription of Malic Enzyme are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate transcription of Malic Enzyme, a key enzyme in lipogenesis. Malic enzyme is involved in lipogenesis and its expression is stimulated by insulin. ME promoter contains two direct repeat (DR1)-like elements. MEp and MEf identified as putative PPAR response elements. ME promoter may also respond to AP1 and other transcription factors. Exemplary assays that may be used or routinely modified to test for regulation of transcription of Malic Enzyme (in adipocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Streeter, R.S., et al., <i>Mol Endocrinol</i>, 12(11):1778-91 (1998); Garcia-Jimenez, C., et al., <i>Mol Endocrinol</i>, 8(10):1361-9 (1994); Barroso, I., et al., <i>J Biol Chem</i>, 274(25):17997-8004 (1999); Ijpenberg, A., et al., <i>J Biol Chem</i>, 272(32):20108-20117 (1997); Berger, et al., <i>Gene</i> 66:1-10 (1988); and, Cullen, B., et al., <i>Methods in Enzymol</i>, 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its</p>	<p>A highly preferred indication is diabetes mellitus.</p> <p>An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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				entirety. Hepatocytes that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary hepatocytes that may be used according to these assays include the H4IIE rat liver hepatoma cell line.	
265	HMELM75	779	Production of MCP-1	<p>MCP-1 F/MAT. Assays for immunomodulatory proteins that are produced by a large variety of cells and act to induce chemotaxis and activation of monocytes and T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, induce chemotaxis, and modulate immune cell activation. Exemplary assays that test for immunomodulatory proteins evaluate the production of cell surface markers, such as monocyte chemoattractant protein (MCP), and the activation of monocytes and T cells. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Erenin, <i>J R Coll Surg Edinb</i> 45(1):9-19 (2001); and Verhasselt et al., <i>J Immunol</i> 158:2919-2925 (1997), the</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) MCP-1 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MCP-1 production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic leukemia (ALL), plasmacytoma, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis (bacterial and viral), Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon,</p>

266	HMI/AL10	780	Activation of transcription through GAS response element in immune cells (such as T-cells).	contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.	pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.
			Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malin, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Mäntikainen et al., Blood 93(6):1980-1991 (1999); and Henthorn et al., J Immunol 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its	Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication	

266	HMI/AC10	780	<p>entirety. Exemplary human T cells, such as the SUPT cell line, that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p> <p>A highly preferred indication is allergy. Another highly preferred indication is asthma. Additional highly preferred indications include inflammation and inflammatory disorders.</p> <p>Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below).</p> <p>Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to</p>
			<p>Assays for the activation of transcription through the Signal Transducers and Activators of Transcription (STAT6) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT6 transcription factors and modulate the expression of multiple genes. Exemplary assays for transcription through the STAT6 response element that may be used or routinely modified to test STAT6 response element activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Heathorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Georgas et al., Blood 92(12):4529-4538 (1998); Moffatt et al., Transplantation 69(7):1521-1523 (2000); Curriel et al., Eur J Immunol 27(8):1982-1987 (1997); and Masuda et al., J Biol Chem 275(38):29331-29337 (2000), the contents</p>	

266	HMAK.10	780	<p>Activation of transcription through NFKB response element in immune cells (such as T-cells).</p>	<p>of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.</p> <p>Assays for the activation of transcription through the NFKB response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFKB transcription factors and modulate expression of immunomodulatory genes.</p> <p>Exemplary assays for transcription through the NFKB response element that may be used or routinely modified to test NFKB-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Gues 15(2):105-117 (1997); and Fraser et al., 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the SUPT cell line, which is a</p>	<p>transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>	<p>Highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), and immunodeficiencies (e.g., as described below). An additional highly preferred indication is infection (e.g., AIDS, and/or an infectious disease as described below under "Infectious Disease").</p> <p>Highly preferred indications include neoplastic diseases (e.g., melanoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as melanoma, renal cell carcinoma, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, suppression of immune reactions to transplanted organs,</p>
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266	HMLAK10	780	<p>Activation of transcription through serum response element in immune cells (such as natural killer cells).</p>	<p>suspension culture of IL-2 and IL-4 responsive T cells.</p> <p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types.</p> <p>Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>asthma and allergy.</p> <p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis.</p> <p>An additional highly preferred indication is sepsis.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia.</p>
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267	HMIBF07	781	<p>Production of MCP-1</p>	<p>MCP-1 FMAAT. Assays for immunomodulatory proteins that are produced by a large variety of cells and act to induce chemotaxis and activation of monocytes and T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, induce chemotaxis, and modulate immune cell activation. Exemplary assays that test for immunomodulatory proteins evaluate the production of cell surface markers, such as monocyte chemoattractant protein (MCP), and the activation of monocytes and T cells. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Erenin, J R Coll Surg Edinb 45(1):9-19 (2001); and Verhasselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety.</p>	<p>hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) MCP-1 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MCP-1 production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis (bacterial and viral), Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign</p>
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267	HMIBF07	781	Insulin Secretion	<p>Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Shimizu, H., et al. <i>Endocr J</i>, 47(3):261-9 (2000); Salapatek, A.M., et al. <i>Mol Endocrinol</i>, 13(8):1305-17 (1999); Filipsson, K., et al. <i>Ann N Y Acad Sci</i>, 865:441-4 (1998); Olson, L.K., et al., <i>J Biol Chem</i>, 271(28):16544-52 (1996); and Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by</p>	<p>dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
				<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>	

267	HMBF07	781	<p>reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777</p> <p>Refs: Lord and Ashcroft. Biochem. J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious</p>
			<p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in:</p>	

268	HMC180	782	Endothelial Cell Apoptosis	<p>Altam, B., et al., Am J Physiol, 277(4 Pt 2):R959-66 (1999); Li, M., et al., Endocrinology, 138(9):3735-40 (1997); Kim, K.H., et al., FEBS Lett, 377(2):237-9 (1995); and, Miraglia S et al., Journal of Biomolecular Screening, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. Endocrinology 1992 130:167.</p>	<p>diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
				<p>Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote caspase protease-mediated apoptosis. Induction of apoptosis in endothelial cells supporting the vasculature of tumors is associated with tumor regression due to loss of tumor blood supply. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity of polypeptides of the invention (including</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for</p>

			<p>antibodies and agonists or antagonists of the invention) include the assays disclosed in Lee et al., <i>J Vasc Med Biol</i> 485(2-3): 122-126 (2000); Nor et al., <i>J Vasc Res</i> 37(3): 209-218 (2000); and Karsan and Harlan, <i>J Atheroscler Thromb</i> 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary endothelial cells that may be used according to these assays include bovine aortic endothelial cells (bAEC), which are an example of endothelial cells which line blood vessels and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangioepithelioma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions,</p>
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269	HMICP65	783	<p>Activation of transcription through GAS response element in immune cells (such as T cells)</p>	<p>such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, stenosis; venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment/prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p>
			<p>Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or</p>	<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for</p>

		as T-cells).	<p>routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Matikainen et al., <i>Blood</i> 93(6):1980-1991 (1999); and Henthorn et al., <i>J Immunol</i> 153(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the SUPT cell line, that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
269	HMICP65	783	<p>Upregulation of HLA-DR and activation of T cells</p>	<p>HLA-DR FMAT: MHC class II is essential for correct presentation of antigen to CD4+ T cells. Deregulation of MHC class II has been associated with autoimmune diseases (e.g., diabetes, rheumatoid arthritis,</p>

			<p>systemic lupus erythematosus, and multiple sclerosis). Assays for immunomodulatory proteins expressed on MHC class II expressing T cells and antigen presenting cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of MHC class II products, such as HLA-DR antigens, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "T lymphocytes: a practical approach", Chapter 6:138-160 (2000); Lamour et al., Clin Exp Immunol 89(2):217-222 (1992); Hurne and Sihvola, Immunol Lett 20(3):217-222 (1989); Gansbacher and Zier, Cell Immunol 117(1):22-34 (1988); and Itoh et al., J Histochem Cytochem 40(11):1675-1683, the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are</p>	<p>lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and alternatively, suppressing a T cell-mediated immune response. A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. An additional preferred indication is infection (e.g., AIDS, and/or as described below under "Infectious Disease").</p>
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270	HIMJAK70	784	<p>Primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>Preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"), and neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancer, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy.</p>
			<p>Kinase assays, for example kinase assays for members of the MAP kinase family (including p38, JAK, and ERK) are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, differentiation, and/or cytokine production in immune cells such as T-cells. Exemplary assays for MAP kinase family members that may be used or routinely modified to test polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Rincon M., Curr Opin Immunol; 13(3):339-345</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of inflammation, infection, allergy, asthma, autoimmunity, and cancer.</p>

271	HMSB04	785	<p>Activation of transcription through API response element in immune cells (such as T-cells).</p>	<p>(2001); Wang LH, et al., J Immunol, 162(7):3897-3904 (1999); Sakamoto H, et al., J Biol Chem, 275(46):35857-35862 (2000), the contents of each of which are herein incorporated by reference in its entirety. Exemplary immune cells (for example, T-cells) that may be used according to these assays include the mouse CTL cell line.</p> <p>Assays for the activation of transcription through the API response element are known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate growth and other cell functions. Exemplary assays for transcription through the API response element that may be used or routinely modified to test API-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1988); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Rellahan et al., J Biol Chem 272(49):30806-30811 (1997); Chang et al., Mol Cell Biol 18(9):4986-4993 (1998); and Fraser et al., Eur J Immunol 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that</p>	<p>Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis,</p>
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272	HMSCI38	786	<p>Activation of transcription through NFKB response element in immune cells (such as B-cells).</p>	<p>may be used according to these assays include the CTL cell line, which is an IL-2 dependent suspension-culture cell line with cytotoxic activity.</p> <p>Assays for the activation of transcription through the NFKB response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFKB transcription factors and modulate expression of immunomodulatory genes.</p> <p>Exemplary assays for transcription through the NFKB response element that may be used or routinely modified to test NFKB-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Gri G, et al., <i>Biol Chem</i>, 273(11):6431-6438 (1998); Pyatt DW, et al., <i>Cell Biol Toxicol</i> 2000;16(1):41-51 (2000); Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Mahm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Valle Blazquez et al., <i>Immunology</i> 90(3):455-460 (1997); Aramburu et al., <i>J Exp Med</i> 82(3):801-810 (1995); and Frazer et al., 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. Immune cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p> <p>Exemplary immune cells that may be used according to these assays include the Reh</p>	<p>meningitis, and Lyme Disease.</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Cancer, Autoimmunity, Allergy and Asthma</p>
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273	HMSCR69	787	<p>B-cell line.</p> <p>MCP-1 FMAAT. Assays for immunomodulatory proteins that are produced by a large variety of cells and act to induce chemotaxis and activation of monocytes and T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, induce chemotaxis, and modulate immune cell activation.</p> <p>Exemplary assays that test for immunomodulatory proteins evaluate the production of cell surface markers, such as monocyte chemoattractant protein (MCP), and the activation of monocytes and T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Eranin, J R Coll Surg Edinb 45(1):9-19 (2001); and Verhasselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) MCP-1 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MCP-1 production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic leukemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis (bacterial and viral), Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
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274	HMSHC86	788	<p>Activation of Skeletal Muscle Cell ERK Signalling Pathway</p>	<p>dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>Kinase assay. Kinase assays, for example Elk-1 kinase assays, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brustel Y, <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):79-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Rat myoblast cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat myoblast cells that may be used according to these assays include L6 cells. L6 is an adherent rat myoblast cell line, isolated from primary cultures of rat</p>	<p>Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders") and disorders of the musculoskeletal system. Preferred indications include neoplastic diseases (e.g., as described below under "Hyperplastic Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease and/or renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the</p>
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275	HMSHU20	789	Production of IFN γ using a T cells	<p>high muscle, that fuses to form multinucleated myotubes and striated fibers after culture in differentiation media.</p> <p>urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p> <p>Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein.</p> <p>Additional highly preferred indications include: myopathy, atrophy, congestive heart failure, cachexia, myxomas, fibromas, congenital cardiovascular abnormalities, heart disease, cardiac arrest, heart valve disease, and vascular disease. Highly preferred indications include neoplasms and cancer, such as, rhabdomyoma, rhabdosarcoma, stomach, esophageal, prostate, and urinary cancer. Highly preferred indications also include breast, lung, colon, pancreatic, brain, and liver cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, hyperplasia, metaplasia, and/or dysplasia.</p>
				<p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ.</p> <p>An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease").</p> <p>Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), boosting a T immunodeficiency (e.g., as described below),</p>

			agonists or antagonists of the invention) to mediate immunomodulation, regulate inflammatory activities, modulate TH2 helper cell function, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as Interferon gamma (IFN γ), and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., <i>J Clin Lab Anal</i> 8(5):225-233 (1995); Billiau et al., <i>Ann NY Acad Sci</i> 856:22-32 (1998); Boehm et al., <i>Annu Rev Immunol</i> 15:749-795 (1997), and <i>Rheumatology (Oxford)</i> 38(3):214-20 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.	cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional preferred indications include idiopathic pulmonary fibrosis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.
276	HMSHY25	790	Production of GM-CSF	A highly preferred embodiment of the invention

			<p>by activated T cells, macrophages, endothelial cells, and fibroblasts. GM-CSF regulates differentiation and proliferation of granulocytes: macrophage progenitors and enhances antimicrobial activity in neutrophils, monocytes and macrophage. Additionally, GM-CSF plays an important role in the differentiation of dendritic cells and monocytes, and increases antigen presentation. GM-CSF is considered to be a proinflammatory cytokine. Assays for immunomodulatory proteins that promote the production of GM-CSF are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and modulate the growth and differentiation of leukocytes. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as GM-CSF, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Ye et al., <i>J Leukoc Biol</i> (58/2):225-233, the contents of each of which are herein incorporated by reference in its entirety. Natural killer cells that may be used according to these</p>	<p>includes a method for stimulating the production of GM-CSF. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of GM-CSF. Highly preferred indications include inflammation and inflammatory disorders. An additional highly preferred indication is infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include blood disorders (e.g., neutropenia (and the prevention of neutropenia (e.g., in HIV infected patients), and/or as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications also include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include asthma. Highly preferred indications include neoplastic diseases (e.g., leukemia (e.g., acute lymphoblastic leukemia, and acute myelogenous leukemia), lymphoma (e.g., non-Hodgkin's lymphoma and Hodgkin's disease), and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications include suppression of immune reactions to transplanted organs and tissues (e.g., bone marrow transplant); accelerating myeloid recovery; and mobilizing hematopoietic progenitor cells. Preferred indications include boosting a T cell-mediated immune response, and alternatively, suppressing a T cell-mediated immune response. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia</p>
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276	HMSHY25	790	<p>assays are publicly available (e.g., through the ATCC) or may be isolated using techniques disclosed herein or otherwise known in the art. Natural killer (NK) cells are large granular lymphocytes that have cytotoxic activity but do not bind antigen. NK cells show antibody-independent killing of tumor cells and also recognize antibody bound on target cells, via NK Fc receptors, leading to cell-mediated cytotoxicity.</p> <p>IFNγ plays a central role in the immune system and is considered to be a proinflammatory cytokine. IFNγ promotes TH1 and inhibits TH2; promotes IgG2a and inhibits IgE; induces macrophage activation; and increases MHC expression. Assays for immunomodulatory proteins produced by T cells and NK cells that regulate a variety of inflammatory activities and inhibit TH2 helper cell functions are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, regulate inflammatory activities, modulate TH2 helper cell function, and/or mediate humoral or cell-mediated immunity.</p> <p>Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as Interferon gamma (IFNγ), and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including</p>	<p>(ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutrophilia, psoriasis, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and allergy.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", "Hyperproliferative Disorders" (e.g., cancer/tumorigenesis) and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease"). Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response, boosting antibody-dependent immune responses, suppressing antibody-dependent immune responses, boosting innate immunity and immune responses, and suppressing innate immunity and immune responses. Additional highly preferred indications include inflammation and inflammatory disorders. Additional preferred indications include idiopathic pulmonary fibrosis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders").</p>
			<p>Production of IFNγ using Natural Killer cells</p>	

277	HMTAB77	791	<p>antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., J Clin Lab Anal 8(5):225-233 (1995); Billiau et al., Ann NY Acad Sci 856:22-32 (1998); Boelhm et al., Annu Rev Immunol 15:749-795 (1997), and Rheumatology (Oxford) 38(3):214-20 (1999), the contents of each of which are herein incorporated by reference in its entirety. Natural Killer (NK) cells that may be used according to these assays are publicly available (e.g., through the ATCC) or may be isolated using techniques disclosed herein or otherwise known in the art. Natural killer (NK) cells are large granular lymphocytes that have cytotoxic activity but do not bind antigen. NK cells show antibody-independent killing of tumor cells and also recognize antibody bound on target cells, via NK Fc receptors, leading to cell-mediated cytotoxicity.</p>	<p>Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
			<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated</p>

			<p>activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
278	HMUAE26	792	Endothelial Cell Apoptosis	<p>Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote caspase protease-mediated apoptosis. Induction of apoptosis in endothelial cells supporting the vasculature</p>
				<p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly</p>

			<p>of tumors is associated with tumor regression due to loss of tumor blood supply. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Lee et al., <i>FEBS Lett</i> 485(2-3): 122-126 (2000); Nor et al., <i>J Vasc Res</i> 37(3): 209-218 (2000); and Karsan and Harlan, <i>J Atheroscler Thromb</i> 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary endothelial cells that may be used according to these assays include bovine aortic endothelial cells (BAEC), which are an example of endothelial cells which line blood vessels and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting re-g, decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioperithelioma,</p>
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				<p>angiosarcoma, haemangiopericytoma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as: prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, stenosis; venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment /prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic</p>
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278	HMUAE26	792	Production of IFN γ using a T cells	<p>inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease").</p> <p>Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiency (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional preferred indications include idiopathic pulmonary fibrosis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia,</p>
				<p>IFNγ FMA17. IFNγ plays a central role in the immune system and is considered to be a proinflammatory cytokine. IFNγ promotes TH1 and inhibits TH2 differentiation, promotes IgG2a and inhibits IgE secretion, induces macrophage activation, and increases MHC expression. Assays for immunomodulatory proteins produced by T cells and NK cells that regulate a variety of inflammatory activities and inhibit TH2 helper cell functions are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, regulate inflammatory activities, modulate TH2 helper cell function, and/or mediate humoral or cell-mediated immunity.</p> <p>Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as Interferon gamma (IFNγ), and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., J Clin Lab Anal 8(5):225-233 (1995);</p>

279	HMUAN45	793	Stimulation of insulin secretion from pancreatic beta cells.	<p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., <i>Am J Physiol</i>, 277(4 Pt 2):R959-66 (1999); Li, M., et al.,</p>	<p>neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
				<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness) ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and</p>	

280	HMVBC31	794	<p>Stimulation of Calcium Flux in pancreatic beta cells.</p>	<p>Endocrinology, 138(9):3735-40 (1997); Kim, K.H., et al., FEBS Lett, 377(2):237-9 (1995); and, Miraglia S et al., Journal of Biomolecular Screening, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. Endocrinology 1992, 130:167.</p>	<p>skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
			<p>Assays for measuring calcium flux are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mobilize calcium. For example, the FLPR assay may be used to measure influx of calcium. Cells normally have very low concentrations of cytosolic calcium compared to much higher extracellular calcium. Extracellular factors can cause an influx of calcium, leading to activation of calcium responsive signaling pathways and alterations in cell functions. Exemplary assays that may be used or routinely modified to measure calcium flux by polypeptides of the invention (including</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment</p>	

281	HMVDU15	795	<p>antibodies and agonists or antagonists of the invention) include assays disclosed in: Satin LS, et al., <i>Endocrinology</i>, 136(10):4389-601 (1995); Mogami H, et al., <i>Endocrinology</i>, 136(7):2960-6 (1995); Richardson SB, et al., <i>Biochem J</i>, 288 (Pt 3):447-51 (1992); and, Meats, JE, et al., <i>Cell Calcium</i> 1989 Nov-Dec;10(8):535-41 (1989), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777</p> <p>Refs: Lord and Ashcroft. <i>Biochem. J.</i> 219: 547-551; Santerre et al. <i>Proc. Natl. Acad. Sci. USA</i> 78: 4339-4343, 1981.</p>	<p>(e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
			<p>Assays for the activation of transcription through the cAMP response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to increase cAMP, regulate CREB transcription factors, and modulate expression of genes involved in a wide variety of cell functions. Exemplary</p>	<p>Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune</p>

			<p>assays for transcription through the cAMP response element that may be used or routinely modified to test cAMP-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malin, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Genes 15(2):105-117 (1997); and Belkowski et al., J Immunol 161(2):659-665 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p> <p>Exemplary mouse T cells that may be used according to these assays include the HT2 cell line, which is a suspension culture of IL-2 dependent T cells that also respond to IL-4.</p>	<p>response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
282	HMWBL03	796	<p>Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote caspase protease-mediated apoptosis. Apoptosis in pancreatic beta is associated with induction and progression of diabetes. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity of polypeptides of the invention (including antibodies and agonists or</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the</p>

283	HMW/JF53	797	Production of IL-5	<p>antagonists of the invention) include the assays disclosed in: Loweth, AC, et al., <i>FEBS Lett</i>, 400(3):285-8 (1997); Saini, KS, et al., <i>Biochem Mol Biol Int</i>, 39(6):1229-36 (1996); Krauthelm, A, et al., <i>Br J Pharmacol</i>, 129(4):687-94 (2000); Chandra J, et al., <i>Diabetes</i>, 50 Suppl 1:S44-7 (2001); Suk K, et al., <i>J Immunol</i>, 166(7):4481-9 (2001); Tejedo J, et al., <i>FEBS Lett</i>, 459(2):238-43 (1999); Zhang, S, et al., <i>FEBS Lett</i>, 455(3):315-20 (1999); Lee et al., <i>FEBS Lett</i> 485(2-3): 122-126 (2000); Nor et al., <i>J Vasc Res</i> 37(3): 209-218 (2000); and Karsan and Harlan, <i>J Atheroscler Thromb</i> 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include RIN-m. RIN-m is a rat adherent pancreatic beta cell insulinoma cell line derived from a radiation induced transplantable rat islet cell tumor. The cells produce and secrete islet polypeptide hormones, and produce insulin, somatostatin, and possibly glucagon. ATTC: #CRL-2057 Chick et al. <i>Proc. Natl. Acad. Sci.</i> 1977 74:628; AF et al. <i>Proc. Natl. Acad. Sci.</i> 1980 77:3519.</p>	<p>"Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
				<p>A highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-5 production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g.,</p>	

			<p>function and B cell Ig production and promote polarization of CD4+ cells into TH2 cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, stimulate immune cell function, modulate B cell Ig production, modulate immune cell polarization, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-5, and the stimulation of eosinophil function and B cell Ig production. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Onshima et al., Blood 92(9):3338-3345 (1998); Jung et al., Eur J Immunol 25(8):2413-2416 (1995); Mori et al., J Allergy Clin Immunol 106(1 Pt 2):558-564 (2000); and Koning et al., Cytokine 9(6):427-436 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are</p>	<p>increasing IL-5 production. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) immunoglobulin production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) immunoglobulin production. A highly preferred indication includes allergy. A highly preferred indication includes asthma. A highly preferred indication includes rhinitis. An additional highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"), and inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, leukemias, Hodgkin's disease, acute myelocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease.</p>
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284	HNEAK81	798	Production of MIP1 alpha	<p>primary human lymphocytes that mature in the thymus and express a T cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p> <p>MIP-1alpha FMT. Assays for immunomodulatory proteins produced by activated dendritic cells that upregulate monocyte/macrophage and T cell chemotaxis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate chemotaxis, and modulate T cell differentiation. Exemplary assays that test for immunomodulatory proteins evaluate the production of chemokines, such as macrophage inflammatory protein 1 alpha (MIP-1α), and the activation of monocytes/macrophages and T cells. Such assays that may be used or routinely modified to test immunomodulatory and chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Erenin, J R Coll Surg Edinb 45(1):9-19 (2001); Drake et al., Trans Immunol 8(1):17-29 (2000); Verhasselt et al., J Immunol 158:2919-</p>
				<p>A highly preferred embodiment of the invention includes a method for stimulating MIP1α production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MIP1α production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary</p>

285	HNECL22	799	<p>Activation of transcription through NFKB response element in immune cells (such as T-cells).</p>	<p>2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>	<p>Highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), and immunodeficiencies (e.g., as described below). An additional highly preferred indication is infection (e.g., AIDS, and/or an infectious disease as described below under "Infectious Disease").</p> <p>Highly preferred indications include neoplastic diseases (e.g., melanoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, melanoma, renal cell carcinoma, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytoma, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous</p>
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286	HNECW49	800	Proliferation, differentiation, and/or cytokine production in immune cells (such as T-cells).	<p>publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.</p> <p>Kinase assays, for example kinase assays for members of the MAP Kinase family (including p38, JAK, and ERK) are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, differentiation, and/or cytokine production in immune cells such as T-cells. Exemplary assays for MAP kinase family members that may be used or routinely modified to test polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Rincon M., Curr Opin Immunol; 13(3):339-345 (2001); Wang LH, et al., J Immunol, 162(7):3897-3904 (1999); Sakamoto H, et al., J Biol Chem, 275(46):35857-35862 (2000), the contents of each of which are herein incorporated by reference in its entirety. Exemplary immune cells (for example, T-cells) that may be used according to these assays include the mouse CTLA-1 cell line.</p>	<p>disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, suppression of immune reactions to transplanted organs, asthma and allergy.</p> <p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of inflammation, infection, allergy, asthma, autoimmunity, and cancer.</p>
287	HNECDH88	801	Activation of transcription through API response element in immune cells (such as T-cells).	<p>Assays for the activation of transcription through the API response element are known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including</p>	<p>Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious</p>

288	HNFAC50	802	<p>antibodies and agonists or antagonists of the invention) to modulate growth and other cell functions. Exemplary assays for transcription through the API response element that may be used or routinely modified to test API-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1988); Cullen and Mallin, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Rellahan et al., <i>J Biol Chem</i> 272(49):30806-30811 (1997); Chang et al., <i>Mol Cell Biol</i> 18(9):4986-4993 (1998); and Fraser et al., <i>Eur J Immunol</i> 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension-culture cell line with cytotoxic activity.</p> <p>Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate caspase protease-mediated apoptosis in immune cells (such as, for example, in mast cells). Mast cells are found in connective and mucosal tissues</p>	<p>disease as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytoma, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.</p>
			<p>disease as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytoma, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of asthma, allergy, hypersensitivity and inflammation.</p>

289	HNFG808	803	<p>throughout the body, and their activation via immunoglobulin E-antigen, promoted by T helper cell type 2 cytokines, is an important component of allergic disease. Dysregulation of mast cell apoptosis may play a role in allergic disease and mast cell tumor survival. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity induced by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Masuda A, et al., <i>J Biol Chem</i> 276(28):26107-26113 (2001); Yeaman CF 2nd, et al., <i>J Exp Med</i>, 192(8):1093-1103 (2000); Lee et al., <i>FEBS Lett</i> 485(2-3): 122-126 (2000); Nor et al., <i>J Vasc Res</i> 37(3): 209-218 (2000); and Karsan and Hartan, <i>J Atheroscler Thromb</i> 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Immune cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary immune cells that may be used according to these assays include mast cells such as the HMC human mast cell line.</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or</p>
			<p>Assays for the regulation of viability and proliferation of cells in vitro are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate viability and proliferation of pancreatic beta cells. For example, the Cell Titer-Glo luminescent</p>	

290	HNF1E34	804	<p>cell viability assay measures the number of viable cells in culture based on quantitation of the ATP present which signals the presence of metabolically active cells. Exemplary assays that may be used or routinely modified to test regulation of viability and proliferation of pancreatic beta cells by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Friedrichsen BN, et al., Mol Endocrinol. 15(1):136-48 (2001); Huotari MA, et al., Endocrinology, 139(4):1494-9 (1998); Hugl SR, et al., J Biol Chem 1998 Jul 10;273(28):17711-9 (1998), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. Endocrinology 1992; 130:167.</p>	<p>blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
			<p>A highly preferred embodiment of the invention includes a method for stimulating MIP 1a production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MIP1a production. A highly preferred indication is infection (e.g., an infectious disease as described below under</p>	

291	HNGAK51	805	Insulin Secretion	<p>assesses the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate chemotaxis, and modulate T cell differentiation. Exemplary assays that test for immunomodulatory proteins evaluate the production of chemokines, such as macrophage inflammatory protein 1 alpha (MIP-1a), and the activation of monocytes/macrophages and T cells. Such assays that may be used or routinely modified to test immunomodulatory and chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Kowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Erenin, J R Coll Surg Edinb 45(1):9-19 (2001); Drakes et al., Transp Immunol 8(1):17-29 (2000); Verhasselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities. Assays for measuring secretion of insulin</p>	<p>"Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
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			<p>are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Shimizu, H., et al., <i>Endocr J.</i> 47(3):261-9 (2000); Salapatek, A.M., et al., <i>Mol Endocrinol</i>, 13(8):1305-17 (1999); Philipsson, K. et al., <i>Ann N Y Acad Sci</i>, 865:441-4 (1998); Olson, L.K. et al., <i>J Biol Chem</i>, 271(28):16344-52 (1996); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon.</p>	<p>An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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292	HNGAM58	806	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777 Refs: Lord and Ashcroft. Biochem. J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia,</p>
			<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Heniborn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells</p>		

292	INGAM58	806	Upregulation of CD152 and activation of T cells	with cytotoxic activity.	thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").
			CD152 FMAT. CD152 (a.k.a. CTLA-4) expression is restricted to activated T cells. CD152 is a negative regulator of T cell proliferation. Reduced CD152 expression has been linked to hyperproliferative and autoimmune diseases. Overexpression of CD152 may lead to impaired immunoresponses. Assays for immunomodulatory proteins important in the maintenance of T cell homeostasis and expressed almost exclusively on CD4+ and CD8+ T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, maintain T cell homeostasis, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD152, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention		A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for

			<p>(including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); McCoy et al., Immunol Cell Biol 77(1):1-10 (1999); Ostervogel et al., Curr Opin Immunol 11(3):294-300 (1999); and Saito T, Curr Opin Immunol 10(3):313-321 (1998), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-2 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-2 production. Additional highly preferred indications include inflammation and inflammatory</p>
293	HNGBH53	807	<p>Activation of transcription through CD28 response element in immune cells (such as T-cells).</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-2 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-2 production. Additional highly preferred indications include inflammation and inflammatory</p>

			<p>assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malin, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); McGuire and Iacobelli, <i>J Immunol</i> 159(3):1319-1327 (1997); Parra et al., <i>J Immunol</i> 166(4):2437-2443 (2001); and Butscher et al., <i>J Biol Chem</i> 31(1):552-560 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the JURKAT cell line, which is a suspension culture of leukemia cells that produce IL-2 when stimulated.</p>	<p>disorders. Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. An additional highly preferred indication includes infection (e.g., AIDS, and/or as described below under "Infectious Disease"). Highly preferred indications include neoplastic diseases (e.g., melanoma, renal cell carcinoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, melanoma (e.g., metastatic melanoma), renal cell carcinoma (e.g., metastatic renal cell carcinoma), leukemia, lymphoma (e.g., T cell lymphoma), and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. A highly preferred indication is infection (e.g., tuberculosis, infections associated with granulomatous disease, and osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). A highly preferred indication is AIDS. Additional highly preferred indications include suppression of immune reactions to transplanted organs and/or tissues, uveitis, psoriasis, and tropical spastic paraparesis. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia.</p>
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294	HNGDQ38	808	Production of MCP-1	<p>MCP-1 FMAT. Assays for immunomodulatory proteins that are produced by a large variety of cells and act to induce chemotaxis and activation of monocytes and T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, induce chemotaxis, and modulate immune cell activation. Exemplary assays that test for immunomodulatory proteins evaluate the production of cell surface markers, such as monocyte chemoattractant protein (MCP), and the activation of monocytes and T cells. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:136-160 (2000); Sathaporn and Erenin, <i>J R Coll Surg Edinb</i> 45(1):9-19 (2001); and Verhasselt et al., <i>J Immunol</i> 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated</p>	<p>neutrophilia, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) MCP-1 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MCP-1 production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic leukemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis (bacterial and viral), Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or</p>
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294	HNGDQ38	808	Production of MIP1alpha	<p>using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>MIP-1alpha FMT. Assays for immunomodulatory proteins produced by activated dendritic cells that upregulate monocyte/macrophage and T cell chemotaxis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate chemotaxis, and modulate T cell differentiation. Exemplary assays that test for immunomodulatory proteins evaluate the production of chemokines, such as macrophage inflammatory protein 1 alpha (MIP-1a), and the activation of monocytes/macrophages and T cells. Such assays that may be used or routinely modified to test immunomodulatory and chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Eremin, J R Coll Surg Edinb 45(1):9-19 (2001); Drakes et al., Transp Immunol 8(1):17-29 (2000); Verhasselt et al., J Immunol 158:2919-</p>	<p>dysplasia.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating MIP1a production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MIP1a production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary</p>
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295	HNGDX18	809	<p>Regulation of transcription via DMEF1 response element in adipocytes and pre-adipocytes</p>	<p>2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
			<p>Assays for the regulation of transcription through the DMEF1 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to activate the DMEF1 response element in a reporter construct (such as that containing the GLUT4 promoter) and to regulate insulin production. The DMEF1 response element is present in the GLUT4 promoter and binds to MEF2 transcription factor and another transcription factor that is required for insulin regulation of Glut4 expression in skeletal muscle. GLUT4 is the primary insulin-responsive glucose transporter in fat and muscle tissue. Exemplary assays that may be used or routinely modified to test for DMEF1 response element activity (in adipocytes and pre-adipocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Thai, M V., et al., J Biol Chem,</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include</p>	

295	HNGDX18	809	<p>273(23):14285-92 (1998); Mora, S., et al., J Biol Chem, 275(21):16323-8 (2000); Liu, M.L., et al., J Biol Chem, 269(45):28514-21 (1994); "Identification of a 30-base pair regulatory element and novel DNA binding protein that regulates the human GLUT4 promoter in transgenic mice," J Biol Chem, 2000 Aug 4;275(31):23666-73; Berger, et al., Gene 66:1-10 (1988); and, Cullen, B., et al., Methods in Enzymol. 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety. Adipocytes and pre-adipocytes that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include the mouse 3T3-L1 cell line which is an adherent mouse preadipocyte cell line. Mouse 3T3-L1 cells are a continuous substrain of 3T3 fibroblasts developed through clonal isolation. These cells undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation culture conditions.</p>	<p>weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
			<p>Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for</p>	<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or</p>

295	HNGDX18	809	<p>transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malin, <i>Methods in Enzymol</i> 216:362-368 (1992); Henhorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Mattikainen et al., <i>Blood</i> 93(6):1980-1991 (1999); and Henttinen et al., <i>J Immunol</i> 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary mouse T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the CTLL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>	<p>dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p> <p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated</p>
	Activation of transcription through serum response element in immune cells (such as T-cells).			

296	HNGDY34	810	Production of IL-6	<p>activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henhorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
296	HNGDY34	810	Production of IL-6	<p>IL-6 FMAT. IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or</p>

			<p>Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhasselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell</p>	<p>"Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neuropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
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297	HNGEA34	811	Production of IL-5	<p>proliferation and functional activities.</p> <p>IL-5 FMOAT: Assays for immunomodulatory proteins secreted by TH2 cells, mast cells, basophils, and eosinophils that stimulate eosinophil function and B cell Ig production and promote polarization of CD4+ cells into TH2 cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, stimulate immune cell function, modulate B cell Ig production, modulate immune cell polarization, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-5, and the stimulation of eosinophil function and B cell Ig production. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Onshima et al., Blood 92(9):3338-3345 (1998); Jung et al., Eur J Immunol 25(8):2413-2416 (1995); Mori et al., J Allergy Clin Immunol 106(1 Pt 2):558-564 (2000); and Koning et al., Cytokine 9(6):427-436 (1997), the contents of each of which are herein</p>	<p>A highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-5 production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-5 production. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) immunoglobulin production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) immunoglobulin production. A highly preferred indication includes allergy. A highly preferred indication includes asthma. A highly preferred indication includes rhinitis. An additional highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"), and inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma,</p>
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298	HNGEQ75	812	Protection from Endothelial Cell Apoptosis.	<p>incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p> <p>Caspase Apoptosis Rescue. Assays for caspase apoptosis rescue are well known in the art and may be used or routinely modified to assess the ability of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to inhibit caspase protease-mediated apoptosis. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis rescue of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Romeo et al., <i>Cardiovasc Res</i> 45(3): 788-794 (2000); Messmer et al., <i>Br J Pharmacol</i> 127(7): 1633-1640 (1999); and J Atheroscler Thromb 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary endothelial cells that may be used according to these assays include bovine</p>	<p>arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease.</p>
				<p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method</p>	

				<p>aortic endothelial cells (bAEC), which are an example of endothelial cells which line blood vessels and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and arteriosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangioepithelioma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, restenosis, venous and lymphatic disorders</p>
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299	HNCGA68	813	Activation of transcription through cAMP response element in immune cells (such as T-cells).	Assays for the activation of transcription through the cAMP response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to increase cAMP and regulate CREB transcription factors, and modulate expression of genes involved in a wide variety of cell functions. Exemplary	<p>such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment/prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p> <p>Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune</p>
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299	HNGGA68	813	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and</p>	<p>assays for transcription through the cAMP response element that may be used or routinely modified to test cAMP-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Mahm. Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Genes 15(2):105-117 (1997); and Belkowski et al., J Immunol 161(2):659-665 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>	<p>response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications</p>
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299	HNGGA68	813	<p>agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Miami, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
			<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types.</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies</p>

300	HNGDP65	814	Activation of Hepatocyte ERK Signaling Pathway	<p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to</p>	<p>Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>(e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytoma, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention includes a method for stimulating hepatocyte cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting hepatocyte cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating hepatocyte cell differentiation. An alternative highly preferred embodiment of the invention includes a</p>
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			<p>promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9): 1101-1110 (1998); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Rat liver hepatoma cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat liver hepatoma cells that may be used according to these assays include H4IIE cells, which are known to respond to glucocorticoids, insulin, or cAMP derivatives.</p>	<p>method for inhibiting hepatocyte cell differentiation. A highly preferred embodiment of the invention includes a method for activating hepatocyte cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating hepatocyte cells. Highly preferred indications include disorders of the liver and/or endocrine disorders (e.g., as described below under "Endocrine Disorders").</p> <p>Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section</p>
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301	HNGHZ69	815	Activation of Endothelial Cell p38 or JNK Signaling Pathway.	<p>Kinase assay. JNK and p38 kinase assays for signal transduction that regulate cell proliferation, activation, or apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and apoptosis. Exemplary assays for JNK and p38 kinase activity that may be used or routinely modified to test JNK and p38 kinase-induced activity or polypeptides of the invention (including antibodies and</p>	<p>below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hepatitis, jaundice, gallstones, cirrhosis of the liver, degenerative or necrotic liver disease, alcoholic liver diseases, fibrosis, liver regeneration, metabolic disease, dyslipidemia and cholesterol metabolism. Additional highly preferred indications include neoplasms and cancers, such as, hepatocarcinomas, other liver cancers, and colon and pancreatic cancer. Preferred indications also include prostate, breast, lung, esophageal, stomach, brain, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred</p>
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			agonists or antagonists of the invention) include the assays disclosed in Forrer et al., Biol Chem 379(8-9):1101-1110 (1998); Gupta et al., Exp Cell Res 247(2): 495-504 (1999); Kyriakis JM, Biochem Soc Symp 64:29-48 (1999); Chang and Karin, Nature 410(6824):37-40 (2001); and Cobb MH, Prog Biophys Mol Biol 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary endothelial cells that may be used according to these assays include human umbilical vein endothelial cells (HUVEC), which are endothelial cells which line venous blood vessels, and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.	embodiment of the invention includes a method for stimulating (e.g., increasing) endothelial cell activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) the activation of and/or inactivating endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia,
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				<p> bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangiopericytoma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, stenosis, venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment /prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and </p>
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302	HNGIV64	816	<p>Activation of Adipocyte ERK Signaling Pathway</p>	<p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brunel Y., <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation</p>	<p>inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders").</p> <p>Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic</p>
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				<p>and undergo a pre-adipocyte to adipocyte-like conversion under appropriate differentiation conditions known in the art.</p> <p>neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypermolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
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303	HNGJB41	817	Production of ICAM-1	Assays for measuring expression of ICAM-1 are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate ICAM-1 expression. Exemplary assays that may be used or routinely modified to measure ICAM-1 expression include assays disclosed in: Takacs P, et al, FASEB J, 15(2):279-281 (2001); and, Miyamoto K, et al., Am J Pathol, 156(5): 1733-1739 (2000), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include microvascular endothelial cells (MVEC).	Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Inflammation, Vascular Disease, Atherosclerosis, Restenosis, and Stroke
304	HNGKT41	818	Activation of transcription through AP1 response element in immune cells (such as T-cells).	Assays for the activation of transcription through the AP1 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate growth and other cell functions. Exemplary assays for transcription through the AP1 response element that may be used or routinely modified to test AP1-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1988); Cullen and Malin,	Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as,

304	HNGKT41	818	<p>Activation of transcription through CD28 response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the CD28 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate IL-2 expression in T cells. Exemplary assays for transcription through the CD28 response element that may be used or routinely modified to test CD28-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malin, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); McGuire and Iacobelli, J Immunol 159(3):1319-1327 (1997); Parra et al., J Immunol</p>	<p>Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Rellahan et al., J Biol Chem 272(49):30806-30811 (1997); Chang et al., Mol Cell Biol 18(9):4986-4993 (1998); and Fraser et al., Eur J Immunol 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the SUPT cell line, which is an IL-2 and IL-4 responsive suspension-culture cell line.</p>	<p>leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.</p>
			<p>Assays for the activation of transcription through the CD28 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate IL-2 expression in T cells. Exemplary assays for transcription through the CD28 response element that may be used or routinely modified to test CD28-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malin, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); McGuire and Iacobelli, J Immunol 159(3):1319-1327 (1997); Parra et al., J Immunol</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-2 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-2 production. Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Highly preferred indications include neoplastic diseases (e.g.,</p>		

304	HNGKT41	818	<p>Activation of transcription through NFAT response element in immune cells (such as T-cells).</p>	<p>166(4):2437-2443 (2001); and Buscher et al., J Biol Chem 3(1):552-560 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.</p>	<p>melanoma, renal cell carcinoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, melanoma (e.g., metastatic melanoma), renal cell carcinoma (e.g., metastatic renal cell carcinoma), leukemia, lymphoma (e.g., T cell lymphoma), and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. A highly preferred indication includes infection (e.g., AIDS, tuberculosis, infections associated with granulomatous disease, and osteoporosis, and/or as described below under "Infectious Disease"). A highly preferred indication is AIDS. Additional highly preferred indications include suppression of immune reactions to transplanted organs and/or tissues, warts, psoriasis, and tropical spastic paraparesis. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, granulomatous disease, inflammatory bowel disease, sepsis, neuropenia, neutrophilia, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p> <p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below).</p>
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			<p>the invention) to regulate NFAT transcription factors and modulate expression of genes involved in immunomodulatory functions. Exemplary assays for transcription through the NFAT response element that may be used or routinely modified to test NFAT-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malin, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Serfling et al., Biochim Biophys Acta 1498(1):1-18 (2000); De Boer et al., Int J Biochem Cell Biol 31(10):1221-1236 (1999); Fraser et al., Eur J Immunol 29(3):838-844 (1999); and Yessen et al., J Biol Chem 268(19):14285-14293 (1993), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.</p>	<p>boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. An additional highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
				<p>Highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as</p>
304	HNGKT41	818	<p>Activation of transcription through NFkB response element in immune cells (such as T-cells).</p>	

			transcription factors and modulate expression of immunomodulatory genes. Exemplary assays for transcription through the NFkB response element that may be used or routinely modified to test NFkB-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Gues 15(2):105-117 (1997); and Fraser et al., 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the SUP-T cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.	described below), and immunodeficiencies (e.g., as indicated below). An additional highly preferred indication is infection (e.g., AIDS and/or an infectious disease as described below under "Infectious Disease"). Highly preferred indications include neoplastic diseases (e.g., melanoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, melanoma, renal cell carcinoma, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, hemophilia, hypercoagulability, diabetes mellitus, endocarditis, meningitis, Lyme Disease, suppression of immune reactions to transplanted organs, asthma and allergy.
304	HNGK741	818	Activation of transcription through serum response element in immune cells (such as natural killer cells).	A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated

305	HNGMW45	819	<p>modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Heathorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Berson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic leukemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neuropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion,</p>
			<p>Assays for the regulation of transcription through the PEPCK promoter are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to activate the PEPCK promoter in a reporter construct and regulate liver gluconeogenesis. Exemplary assays for regulation of transcription</p>	<p>Regulation of transcription through the PEPCK promoter in hepatocytes</p>

			<p>through the PEPCK promoter that may be used or routinely modified to test for PEPCK promoter activity (in hepatocytes) of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Lochhead et al., <i>Diabetes</i> 49(6):896-903 (2000); and Yeagley et al., <i>J Biol Chem</i> 275(23):17814-17820 (2000), the contents of each of which is herein incorporated by reference in its entirety. Hepatocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary liver hepatoma cells that may be used according to these assays include H4IIE cells, which contain a tyrosine amino transferase that is inducible with glucocorticoids, insulin, or cAMP derivatives.</p>	<p>drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., an infectious disease or disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include glycogen storage disease (e.g., glycogenoses), hepatitis, gallstones, cirrhosis of the liver, degenerative or necrotic liver disease, alcoholic liver diseases, fibrosis, liver regeneration, metabolic disease, dyslipidemia and cholesterol metabolism, and hepatocarcinomas. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), infection (e.g., an infectious disease and/or disorder as described below under "Infectious Disease"), endocrine disorders (e.g., as described below under "Endocrine Disorders"), and neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"). Additional preferred indications include neoplastic diseases (e.g., as</p>
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306	HNGNK44	820	Production of TNF α by dendritic cells	<p>TNFα FMAT. Assays for immunomodulatory proteins produced by activated macrophages, T cells, fibroblasts, smooth muscle, and other cell types that exert a wide variety of inflammatory and cytotoxic effects on a variety of cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate inflammation and cytotoxicity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines such as tumor necrosis factor α (TNFα), and the induction or inhibition of an inflammatory or cytotoxic response. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "T lymphocytes: a practical approach" Chapter 6:138-160 (2000); Verhasselt et al., Eur J Immunol 28(11):3886-3890</p>	<p>described below under "Hyperproliferative Disorders").</p> <p>Preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, and urinary cancer. A highly preferred indication is liver cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) TNFα production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNFα production.</p> <p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders").</p> <p>Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response.</p> <p>Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia,</p>
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				(1198); Dahlen et al., J Immunol 160(7):3585-3593 (1998); Verhasselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.	pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").
306	HNGNK44	820	Upregulation of CD152 and activation of T cells	CD152 FMAT. CD152 (a.k.a. CTLA-4) expression is restricted to activated T cells. CD152 is a negative regulator of T cell proliferation. Reduced CD152 expression has been linked to hyperproliferative and autoimmune diseases. Overexpression of CD152 may lead to impaired immunoresponses. Assays for immunomodulatory proteins important in the maintenance of T cell homeostasis and expressed almost exclusively on CD4+ and CD8+ T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, maintain T cell homeostasis, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such	A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma,

307	HNGN053	821	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>as CD152, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Kowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); McCoy et al., Immunol Cell Biol 77(1):1-10 (1999); Oostervogel et al., Curr Opin Immunol 11(3):294-300 (1999); and Saito T, Curr Opin Immunol 10(3):313-321 (1998), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy. An additional preferred indication is infection (e.g., as described below under "Infectious Disease").</p>
			<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple</p>	

308	HNGP25	822	<p>related genes in many cell types.</p> <p>Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the JURKAT cell line, which is a suspension culture of leukemia cells that produce IL-2 when stimulated.</p>	<p>sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkin's lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon,</p>
			<p>Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of</p>	

308	HNGP25	822	<p>the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Matikainen et al., <i>Blood</i> 93(6):1980-1991 (1999); and Hentinen et al., <i>J Immunol</i> 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary mouse T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the CTLL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>	<p>pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
			<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), Highly preferred indications</p>

			<p>the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malin, Methods in Enzymol 216:362-368 (1992); Hanthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
308	HNGP25	822	<p>Assays for the regulation of transcription of Malic Enzyme are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as</p>

agonists or antagonists of the invention) to regulate transcription of Malic Enzyme, a key enzyme in lipogenesis. Malic enzyme is involved in lipogenesis and its expression is stimulated by insulin. ME promoter contains two direct repeat (DR1)-like elements MEp and MEed identified as putative PPAR response elements. ME promoter may also responds to AP1 and other transcription factors. Exemplary assays that may be used or routinely modified to test for regulation of transcription of Malic Enzyme (in adipocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Streper, R.S., et al., Mol Endocrinol, 12(11):1778-91 (1998); Garcia-Jimenez, C., et al., Mol Endocrinol, 8(10):1361-9 (1994); Barroso, I., et al., J Biol Chem, 274(25):17997-8004 (1999); Ijpenberg, A., et al., J Biol Chem, 272(32):20108-20117 (1997); Berger, et al., Gene 66:1-10 (1988); and, Cullen, B., et al., Methods in Enzymol. 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety. Hepatocytes that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary hepatocytes that may be used according to these assays includes the H4IIE rat liver hepatoma cell line.	described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.		
Activation of Adipocyte P13 Kinase Signalling Pathway	HNHN82	823	A highly preferred embodiment of the invention includes a method for increasing adipocyte survival. An alternative highly preferred embodiment of the invention
309	HNHN82		

			<p>metabolism and cell survival are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit glucose metabolism and cell survival.</p> <p>Exemplary assays for P13 kinase activity that may be used or routinely modified to test P13 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Nikolina et al., <i>Diabetes</i> 49(2):263-271 (2000); and Schreyer et al., <i>Diabetes</i> 48(8):1662-1666 (1999), the contents of each of which are herein incorporated by reference in its entirety.</p> <p>Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p> <p>Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>includes a method for decreasing adipocyte survival. A preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"). Preferred indications include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"), blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g. due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section</p>
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310	HNHF71	824	Activation of Adipocyte P13 Kinase Signalling Pathway	<p>Kinase assay. Kinase assays, for example an GSK-3 assays, for P13 kinase signal transduction that regulate glucose metabolism and cell survival are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of</p>	<p>below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein.</p> <p>Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Highly preferred indications include neoplasms and cancer, such as, lipoma, liposarcoma, lymphoma, leukemia and breast, colon, and kidney cancer. Additional highly preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>	<p>A highly preferred embodiment of the invention includes a method for increasing adipocyte survival. An alternative highly preferred embodiment of the invention includes a method for decreasing adipocyte survival. A preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A</p>
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			<p>the invention) to promote or inhibit glucose metabolism and cell survival. Exemplary assays for P13 kinase activity that may be used or routinely modified to test P13 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Nikouline et al., <i>Diabetes</i> 49(2):263-271 (2000); and Schreyer et al., <i>Diabetes</i> 48(8):1662-1666 (1999), the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"). Preferred indications include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"), blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity"), "Cardiovascular Disorders", and/or "Blood-Related Disorders", immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g. due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the</p>
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310	HNHF71	824	Calcium flux in immune cells (such as monocytes)	Assays for measuring calcium flux are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mobilize calcium. Cells normally have very low concentrations of cytosolic calcium compared to much higher extracellular calcium. Extracellular factors can cause an influx of calcium, leading to activation of calcium responsive signaling pathways and alterations in cell functions. Exemplary assays that may be	<p>"Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p> <p>Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein.</p> <p>Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Highly preferred indications include neoplasms and cancer, such as, lipoma, liposarcoma, lymphoma, leukemia and breast, colon, and kidney cancer. Additional highly preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Infection, Inflammation, Atherosclerosis, Hypersensitivity, and Leukemias</p>
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311	HNHGK22	825	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Melnick, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al.,</p>	<p>used or routinely modified to measure calcium flux in immune cells (such as monocytes) include assays disclosed in: Chan, CC, et al., J Pharmacol Exp Ther, 269(3):891-896 (1994); Andersson, K, et al., Cytokine, 12(12):1784-1787 (2000); Scully, SP, et al., J Clin Invest, 74(2): 589-599 (1984); and, Sullivan, E, et al., Methods Mol Biol, 114:125-133 (1999), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include the THP.1 monocyte cell line.</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally,</p>
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			<p>Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
312	HNNHB10	826	<p>Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include</p>	<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response.</p>

				<p>assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malin, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Matikainen et al., Blood 93(6):1980-1991 (1999); and Hentinen et al., J Immunol 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the MOL74 cell line, that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
313	HNHKS19	827	Protection from Endothelial Cell Apoptosis.	<p>Caspase Apoptosis Rescue. Assays for caspase apoptosis rescue are well known in the art and may be used or routinely modified to assess the ability of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to inhibit caspase protease-mediated apoptosis. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis rescue of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Romeo et al., Cardiovasc Res 45(3): 788-794 (2000); Messmer et al., Br J Pharmacol 127(7): 1633-1640 (1999); and J Atheroscler Thromb 3(2): 75-80 (1996); the contents of</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred</p>

			<p>each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary endothelial cells that may be used according to these assays include bovine aortic endothelial cells (BAEC), which are an example of endothelial cells which line blood vessels and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangioepithelioma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign</p>
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				<p>dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, Hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, stenosis; venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment /prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p>
			IL-10 FMAT: Assays for immunomodulatory proteins produced by activated T cells, B cells, and monocytes	A highly preferred embodiment of the invention includes a method for stimulating the production of IL-10. An alternative preferred embodiment of the invention
			Production of IL-10 and downregulation of immune responses	
		828		
	HNTB17			
314				

			<p>that exhibit anti-inflammatory activity and downregulate monocyte/macrophage function and expression of cytokines are well known in the art and may be used or routinely modified to assess the ability of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, regulate inflammatory activities, and modulate immune cell function and cytokine production. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-10, and the downmodulation of immune responses. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Koning et al., <i>Cytokine</i> 9(6):427-436 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to</p>	<p>includes a method for inhibiting the production of IL-10. Highly preferred indications include inflammation and inflammatory disorders (e.g. inflammatory bowel disease). An additional highly preferred indication includes inflammatory bowel disease. Additional highly preferred indications include blood disorders (e.g., as described below under "Immune Activity" (e.g., autoimmune disorders), "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, Crohn's disease, arthritis, AIDS, granulomatous disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy. An additional preferred indication is infection (e.g., as described below under "Infectious Disease").</p>
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315	HNTMH79	829	<p>enhance responsiveness to immunomodulatory factors.</p> <p>Assays for the activation of transcription through the API response element are known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate growth and other cell functions. Exemplary assays for transcription through the API response element that may be used or routinely modified to test API-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1988); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Rellahan et al., <i>J Biol Chem</i> 272(49):30806-30811 (1997); Chang et al., <i>Mol Cell Biol</i> 18(9):4986-4993 (1998); and Fraser et al., <i>Eur J Immunol</i> 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety.</p> <p>Mouse T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the HT2 cell line, which is an IL-2 dependent suspension culture cell line that also responds to IL-4.</p>	<p>Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders", blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.</p>
316	HOABP31	830	<p>Production of IFNγ using a T cells</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the</p>

			<p>cytokine. IFNγ promotes TH1 and inhibits TH2 differentiation; promotes IgG2a and inhibits IgE secretion; induces macrophage activation; and increases MHC expression. Assays for immunomodulatory proteins produced by T cells and NK cells that regulate a variety of inflammatory activities and inhibit TH2 helper cell functions are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, regulate inflammatory activities, modulate TH2 helper cell function, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as Interferon gamma (IFNγ), and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., <i>J Clin Lab Anal</i> 8(5):225-233 (1995); Billiau et al., <i>Ann NY Acad Sci</i> 856:22-32 (1998); Boehm et al., <i>Annu Rev Immunol</i> 15:749-795 (1997), and <i>Rheumatology</i> (Oxford) 38(3):214-20 (1999), the contents of each of which are herein incorporated</p>
			<p>invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease"). Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiency (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional preferred indications include idiopathic pulmonary fibrosis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>

317	HOABP31	831	Production of IFN γ using a T cell	<p>by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p> <p>IFNγ FMAAT. IFNγ plays a central role in the immune system and is considered to be a proinflammatory cytokine. IFNγ promotes TH1 and inhibits TH2 differentiation; promotes IgG2a and inhibits IgE secretion; induces macrophage activation; and increases MHC expression. Assays for immunomodulatory proteins produced by T cells and NK cells that regulate a variety of inflammatory activities and inhibit TH2 helper cell functions are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, regulate inflammatory activities, modulate TH2 helper cell function, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as Interferon gamma (IFNγ), and the activation of T cells. Such assays that may be used or routinely modified to test</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease"). Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional preferred indications include idiopathic pulmonary fibrosis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach,</p>
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318	HOACG07	832	<p>immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., J Clin Lab Anal 8(5):225-233 (1995); Billiau et al., Ann NY Acad Sci 856:22-32 (1998); Boelhm et al., Annu Rev Immunol 15:749-795 (1997), and Rheumatology (Oxford) 38(3):214-20 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art.</p> <p>Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute myelocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
			<p>Assays for measuring calcium flux are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mobilize calcium. For example, the FLPR assay may be used to measure influx of calcium. Cells normally have very low concentrations of cytosolic calcium compared to much higher extracellular calcium. Extracellular factors can cause an influx of calcium, leading to</p>	<p>A highly preferred indication is diabetes mellitus.</p> <p>An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypersmolar coma, cardiovascular disease (e.g., heart disease).</p>

319	HODAG07	833	<p>activation of calcium responsive signaling pathways and alterations in cell functions. Exemplary assays that may be used or routinely modified to measure calcium flux by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Satin LS, et al., <i>Endocrinology</i>, 136(10):4589-601 (1995); Mogami H, et al., <i>Endocrinology</i>, 136(7):2960-6 (1995); Richardson SB, et al., <i>Biochem J</i>, 288 (Pt 3):847-51 (1992); and, Meats, JE, et al., <i>Cell Calcium</i> 1989 Nov-Dec;10(8):535-41 (1989), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777 Refs: Lord and Ashcroft. <i>Biochem. J</i> 219: 547-551; Santerre et al. <i>Proc. Natl. Acad. Sci. USA</i> 78: 4339-4343, 1981.</p> <p>Assays for the activation of transcription through the AP1 response element are known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including as T-cells).</p>	<p>atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p> <p>Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious</p>
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320	H0DBB70	834	<p>antibodies and agonists or antagonists of the invention) to modulate growth and other cell functions. Exemplary assays for transcription through the AP1 response element that may be used or routinely modified to test AP1-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1988); Cullen and Malin, <i>Methods in Enzymol</i> 216:362-368 (1992); Herthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Rellahan et al., <i>J Biol Chem</i> 272(49):30806-30811 (1997); Chang et al., <i>Mol Cell Biol</i> 18(9):4986-4993 (1998); and Fraser et al., <i>Eur J Immunol</i> 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension-culture cell line with cytotoxic activity.</p>	<p>disease as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic leukemia (ALL), plasmacytoma, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.</p>
			<p>Assays for the activation of transcription through the cAMP response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to increase cAMP and regulate CREB transcription factors, and modulate expression of genes involved in a wide variety of cell functions. Exemplary</p>	<p>Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune</p>

320	HODBB70	834	<p>Regulation of transcription through the PEPCK promoter in hepatocytes</p>	<p>assays for transcription through the cAMP response element that may be used or routinely modified to test cAMP-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Genes 15(2):105-117 (1997); and Belkowski et al., J Immunol 161(2):659-665 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>	<p>response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
			<p>Regulation of transcription through the PEPCK promoter in hepatocytes</p>	<p>Assays for the regulation of transcription through the PEPCK promoter are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to activate the PEPCK promoter in a reporter construct and regulate liver gluconeogenesis. Exemplary assays for regulation of transcription through the PEPCK promoter that may be used or routinely modified to test for PEPCK promoter activity (in hepatocytes) of polypeptides of the invention (including</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the</p>

			<p>antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Loohead et al., Diabetes 49(6):896-903 (2000); and Yeagley et al., J Biol Chem 275(23):17814-17820 (2000), the contents of each of which is herein incorporated by reference in its entirety. Hepatocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary liver hepatoma cells that may be used according to these assays include H4IIE cells, which contain a tyrosine amino transferase that is inducible with glucocorticoids, insulin, or cAMP derivatives.</p>	<p>"Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., an infectious disease or disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include glycogen storage disease (e.g., glycogenoses), hepatitis, gallstones, cirrhosis of the liver, degenerative or necrotic liver disease, alcoholic liver diseases, fibrosis, liver regeneration, metabolic disease, dyslipidemia and cholesterol metabolism, and hepatocarcinomas. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), infection (e.g., an infectious disease and/or disorder as described below under "Infectious Disease"), endocrine disorders (e.g., as described below under "Endocrine Disorders"), and neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"). Additional preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, and urinary cancer.</p>
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321	H0DBV05	835	Production of MCP-1	<p>MCP-1 FMAT: Assays for immunomodulatory proteins that are produced by a large variety of cells and act to induce chemotaxis and activation of monocytes and T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, induce chemotaxis, and modulate immune cell activation. Exemplary assays that test for immunomodulatory proteins evaluate the production of cell surface markers, such as monocyte chemoattractant protein (MCP), and the activation of monocytes and T cells. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Eremin, J R Coll Surg Ednb 45(1):9-19 (2001); and Verhasselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used</p>	<p>A highly preferred indication is liver cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) MCP-1 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MCP-1 production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute myelocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis (bacterial and viral), Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions,</p>
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322	HDC722	836	Activation of Natural Killer Cell ERK Signaling Pathway.	<p>according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Natural killer cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p> <p>Exemplary natural killer cells that may be used according to these assays include the human natural killer cell lines (for</p>	<p>such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
				<p>A highly preferred embodiment of the invention includes a method for stimulating natural killer cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting natural killer cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating natural killer cell differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting natural killer cell differentiation. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity") and infections (e.g., as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include cancers such as, kidney, melanoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, urinary cancer, lymphoma and leukemias.</p>	

323	HOEBK60	837	Insulin Secretion	<p>example, NK-YT cells which have cytolytic and cytotoxic activity) or primary NK cells.</p> <p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Shimizu, H., et al., <i>Endocr J</i>, 47(3):261-9 (2000); Salapatek, A.M., et al., <i>Mol Endocrinol</i>, 13(8):1305-17 (1999); Filipsson, K., et al., <i>Ann N Y Acad Sci</i>, 865:441-4 (1998); Olson, L.K., et al., <i>J Biol Chem</i>, 271(28):16544-52 (1996); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents</p>	<p>Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Other highly preferred indications include, pancytopenia, leukopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), arthritis, asthma, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, immune reactions to transplanted organs and tissues, endocarditis, meningitis, Lyme Disease, and allergies.</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain.</p> <p>highly preferred indications are complications associated</p>
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				of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777 Refs: Lord and Ashcroft. Biochem. J. 219; 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.	with insulin resistance.
324	HOFAA78	838	Activation of Skeletal Muscle Cell PT3 Kinase Signalling Pathway	<p>Kinase assay. Kinase assays, for example an GSK-3 kinase assay, for PT3 kinase signal transduction that regulate glucose metabolism and cell survival are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit glucose metabolism and cell survival. Exemplary assays for PT3 kinase activity that may be used or routinely modified to test PT3 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Forrer et al., Biol Chem 379(8-9):1101-1110 (1998); Nikulina et al., Diabetes</p> <p>A highly preferred embodiment of the invention includes a method for increasing muscle cell survival. An alternative highly preferred embodiment of the invention includes a method for decreasing muscle cell survival. A preferred embodiment of the invention includes a method for stimulating muscle cell proliferation. In a specific embodiment, skeletal muscle cell proliferation is stimulated. An alternative highly preferred embodiment of the invention includes a method for inhibiting muscle cell proliferation. In a specific embodiment, skeletal muscle cell proliferation is inhibited. A preferred embodiment of the invention includes a method for stimulating muscle cell differentiation. In a specific embodiment, skeletal muscle cell differentiation is stimulated. An alternative highly preferred embodiment of the invention includes a method for inhibiting muscle cell differentiation. In a specific embodiment, skeletal muscle cell differentiation is inhibited. Highly preferred indications include disorders</p>	

				<p>49(2):263-271 (2000); and Schreyer et al., Diabetes 48(8):1662-1666 (1999), the contents of each of which are herein incorporated by reference in its entirety. Rat myoblast cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat myoblast cells that may be used according to these assays include L6 cells. L6 is an adherent rat myoblast cell line, isolated from primary cultures of rat thigh muscle, that fuses to form multinucleated myotubes and striated fibers after culture in differentiation media.</p>	<p>of the musculoskeletal system. Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), endocrine disorders (e.g., as described below under "Endocrine Disorders"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infections (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly</p>
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325	HOFNB74	839	Insulin Secretion	<p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Shimizu, H., et al., <i>Endocr J</i>, 47(3):261-9 (2000); Salapatek, A.M., et al., <i>Mol</i></p>	<p>preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal system including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include: myopathy, atrophy, congestive heart failure, cachexia, myomas, fibromas, congenital cardiovascular abnormalities, heart disease, cardiac arrest, heart valve disease, and vascular disease. Highly preferred indications include neoplasms and cancer, such as, rhabdomyoma, rhabdosarcoma, stomach, esophageal, prostate, and urinary cancer. Preferred indications also include breast, lung, colon, pancreatic, brain, and liver cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and</p>
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326	HOFNU55	840	Activation of transcription through cAMP response element in immune cells (such as T-cells).	<p>Endocrinol. 13(8):1305-17 (1999); Filipsson, K. et al., Ann N Y Acad Sci, 865:441-4 (1998); Olson, L.K., et al., J Biol Chem, 271(28):16544-52 (1996); and, Miraglia S et al., Journal of Biomolecular Screening, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777 Refs: Lord and Ashcroft. Biochem. J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.</p>	<p>skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
				<p>Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly</p>	

327	H0GBF01	841	<p>Activation of transcription through AP1 response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the AP1 response element are known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate growth and other cell functions. Exemplary assays for transcription through the AP1 response element that may be used or routinely modified to test AP1-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1988); Cullen and Malin, Methods in Enzymol 216:362-368 (1992); Henhorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Genes 15(2):105-117 (1997); and Belkowski et al., J Immunol 161(2):659-665 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the JURKAT cell line, which is a suspension culture of leukemia cells that produce IL-2 when stimulated.</p>	<p>routinely modified to test cAMP-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1988); Cullen and Malin, Methods in Enzymol 216:362-368 (1992); Henhorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Genes 15(2):105-117 (1997); and Belkowski et al., J Immunol 161(2):659-665 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the JURKAT cell line, which is a suspension culture of leukemia cells that produce IL-2 when stimulated.</p>	<p>Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute myelocytic anemia (ALL), plasmacytoma, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>	<p>Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as,</p>
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327	H0GBF01	841	Production of IL-6	<p>Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Rellahan et al., J Biol Chem 272(49):30806-30811 (1997); Chang et al., Mol Cell Biol 18(9):4986-4993 (1998); and Fraser et al., Eur J Immunol 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension-culture cell line with cytotoxic activity.</p> <p>IL-6 EMAT. IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases.</p> <p>Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function.</p>	<p>leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.</p>
328	H0GBF01	841	Production of IL-6	<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include</p>	

			<p>Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhaselt et al., <i>J Immunol</i> 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer.</p> <p>Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
327	H0GBF01	841	<p>Production of IFNγ using a T cells</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease").</p>

			<p>helper cell functions are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, regulate inflammatory activities, modulate TH2 helper cell function, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as Interferon gamma (IFNγ), and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., J Clin Lab Anal 8(5):225-233 (1995); Billiau et al., Ann NY Acad Sci 856:22-32 (1998); Boehm et al., Annu Rev Immunol 15:749-795 (1997), and Rheumatology (Oxford) 38(3):214-20 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or</p>	<p>Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), boosting a T immunodeficiency (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional preferred indications include idiopathic pulmonary fibrosis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
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328	HORBS82	842	<p>cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p> <p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brustel Y, <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders").</p> <p>Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity" and "Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic</p>
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				<p>and undergo a pre-adipocyte to adipocyte-like conversion under appropriate differentiation conditions known in the art.</p> <p>neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
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328	HOBBS82	842	<p>Regulation of apoptosis of immune cells (such as mast cells).</p>	<p>Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate caspase protease-mediated apoptosis in immune cells (such as, for example, in mast cells). Mast cells are found in connective and mucosal tissues throughout the body, and their activation via immunoglobulin E-antigen, promoted by T helper cell type 2 cytokines, is an important component of allergic disease. Dysregulation of mast cell apoptosis may play a role in allergic disease and mast cell tumor survival. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity induced by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Masuda A, et al., <i>J Biol Chem</i>, 276(28):26107-26113 (2001); Yeaman CF 2nd, et al., <i>J Exp Med</i>, 192(8):1093-1103 (2000); Lee et al., <i>FEBS Lett</i> 485(2-3): 122-126 (2000); Nor et al., <i>J Vasc Res</i> 37(3): 209-218 (2000); and Karsan and Harlan, <i>J Atheroscler Thromb</i> 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Immune cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary immune cells that may be used according to these assays include mast cells such as the HMC</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of asthma, allergy, hypersensitivity and inflammation.</p>
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329	HORBV76	843	Production of ICAM-1	human mast cell line. Assays for measuring expression of ICAM-1 are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate ICAM-1 expression. Exemplary assays that may be used or routinely modified to measure ICAM-1 expression include assays disclosed in: Takacs P, et al, FASEB J, 15(2):279-281 (2001); and, Miyamoto K, et al., Am J Pathol, 156(3):1733-1739 (2000), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include microvascular endothelial cells (MVEC).	Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Inflammation, Vascular Disease, Atherosclerosis, Restenosis, and Stroke
330	HOSD075	844	Regulation of apoptosis in pancreatic beta cells.	Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote caspase protease-mediated apoptosis. Apoptosis in pancreatic beta is associated with induction and progression of diabetes. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the	A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypersmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia,

331	H05EC25	845	Production of IL-2 and activation of T cells	<p>assays disclosed in: Lovelth, AC, et al., <i>FEBS Lett.</i> 400(3):285-8 (1997); Saini, KS, et al., <i>Biochem Mol Biol Int.</i> 39(6):1229-36 (1996); Krauthelm, A., et al., <i>Br J Pharmacol</i>, 129(4):687-94 (2000); Chandra I, et al., <i>Diabetes</i>, 50 Suppl 1:S44-7 (2001); Suk K, et al., <i>J Immunol</i>, 166(7):4481-9 (2001); Tejedo J, et al., <i>FEBS Lett.</i> 459(2):238-43 (1999); Zhang, S., et al., <i>FEBS Lett.</i> 455(3):315-20 (1999); Lee et al., <i>FEBS Lett</i> 485(2-3): 122-126 (2000); Nor et al., <i>J Vasc Res</i> 37(3): 209-218 (2000); and Karsan and Harlan, <i>J Atheroscler Thromb</i> 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include RIN-m. RIN-m is a rat adherent pancreatic beta cell insulinoma cell line derived from a radiation induced transplantable rat islet cell tumor. The cells produce and secrete islet polypeptide hormones, and produce insulin, somatostatin and possibly glucagon. ATTC: #CRL-2057. Chick et al. <i>Proc. Natl. Acad. Sci.</i> 1977 74:628; AF et al. <i>Proc. Natl. Acad. Sci.</i> 1980 77:3519.</p> <p>IL-2 FMAT. IL-2 is the principal T cell factor that allows T cell expansion and differentiation into effector cells. Assays for immunomodulatory proteins secreted by TH1 cells that promote T cell and NK</p>	<p>endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating IL-2 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-2 production. A highly preferred embodiment of the</p>
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			<p>cell growth and differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, promote immune cell growth and differentiation, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-2, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Laduda et al., <i>Immunology</i> 94(4):496-502 (1998); and Powell et al., <i>Immunol Rev</i> 165:287-300 (1998), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>invention includes a method for stimulating T cell expansion. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell expansion. A highly preferred embodiment of the invention includes a method for stimulating T cell differentiation. In a specific embodiment, this method stimulates T cell differentiation into effector cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell differentiation. In a specific embodiment, this method inhibits the differentiation of T cells into effector cells. Highly preferred indications include neoplastic diseases (e.g., melanoma, renal cell carcinoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms, such as, for example, melanoma (e.g., metastatic melanoma), renal cell carcinoma (e.g., metastatic renal cell carcinoma), leukemia, lymphoma (e.g., T cell lymphoma), and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, ovarian, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). A highly preferred indication is AIDS and HIV infection. Additional highly preferred indications include suppression of immune reactions to transplanted organs and/or tissues, uveitis, psoriasis, and tropical spastic paraparesis. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), organ and tissue transplant rejection. Additional</p>
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332	HOSE181	846	<p>Proliferation, differentiation, and/or cytokine production in immune cells (such as T-cells).</p>	<p>Kinase assays, for example kinase assays for members of the MAP kinase family (including p38, JAK, and ERK) are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, differentiation, and/or cytokine production in immune cells such as T-cells. Exemplary assays for MAP kinase family members that may be used or routinely modified to test polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Rincon M., Curr Opin Immunol; 13(3):339-345 (2001); Wang LH, et al., J Immunol 162(7):3897-3904 (1999); Sakamoto H, et al., J Biol Chem, 273(46):35857-35862 (2000), the contents of each of which are herein incorporated by reference in its entirety. Exemplary immune cells (for example, T-cells) that may be used according to these assays include the mouse CTLL cell line.</p>	<p>preferred indications include inflammation and inflammatory disorders. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, Non-Hodgkin's lymphoma, Kaposi's sarcoma arthritis, granulomatous disease, inflammatory bowel disease, Hepatitis (e.g. Hepatitis C), sepsis, neutropenia, neutrophilia, psoriasis, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p> <p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of inflammation, infection, allergy, asthma, autoimmunity, and cancer.</p>
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333	H05E104	847	Production of IL-6	<p>IL-6 FMAT: IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases. Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhasselt et al., J Immunol 158:2919-2925 (1997), the contents of</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to</p>
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334	HOUCA21	848	Production of IFN γ using a T cells	<p>each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>IFNγ plays a central role in the immune system and is considered to be a proinflammatory cytokine. IFNγ promotes TH1 and inhibits TH2 differentiation; promotes IgG2a and inhibits IgE secretion; induces macrophage activation; and increases MHC expression. Assays for immunomodulatory proteins produced by T cells and NK cells that regulate a variety of inflammatory activities and inhibit TH2 helper cell functions are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, regulate inflammatory activities, modulate TH2 helper cell function, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as Interferon gamma (IFNγ), and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of</p>	<p>transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
				<p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease"). Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional preferred indications include idiopathic pulmonary fibrosis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications</p>	

			<p>polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., J Clin Lab Anal 8(5):225-233 (1995); Billiau et al., Ann NY Acad Sci 856:22-32 (1998); Boehm et al., Annu Rev Immunol 15:749-795 (1997), and Rheumatology (Oxford) 38(3):214-20 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
335	HOUD292	849	<p>Activation of transcription through API response element in immune cells (such as T-cells).</p>	<p>Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia,</p>

335	HOUDE92	849	<p>antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1988); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Rellahan et al., J Biol Chem 272(49):30806-30811 (1997); Chiang et al., Mol Cell Biol 18(9):4986-4993 (1998); and Fraser et al., Eur J Immunol 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension-culture cell line with cytotoxic activity.</p>	<p>lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.</p>
			<p>Activation of transcription through cAMP response element in immune cells (such as T-cells).</p>	<p>Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's</p>

335	HOUE92	849	<p>Activation of transcription through NFAT response in immune cells (such as T-cells).</p>	<p>Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Res 15(2):105-117 (1997); and Belkowski et al., J Immunol 161(2):659-665 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>	<p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. An additional highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neuropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
				<p>Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Res 15(2):105-117 (1997); and Belkowski et al., J Immunol 161(2):659-665 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>	<p>Assays for the activation of transcription through the Nuclear Factor of Activated T cells (NFAT) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFAT transcription factors and modulate expression of genes involved in immunomodulatory functions. Exemplary assays for transcription through the NFAT response element that may be used or routinely modified to test NFAT-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Serfling et al.,</p>

335	HOUDE92	849	Activation of transcription through NFKB response element in immune cells (such as B-cells).	<p>Biochim Biophys Acta 1498(1):1-18 (2000); De Boer et al., Int J Biochem Cell Biol 31(10):1221-1236 (1999); Fraser et al., Eur J Immunol 29(3):838-844 (1999); and Yessen et al., J Biol Chem 268(19):14285-14293 (1993), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the JURKAT cell line, which is a suspension culture of leukemia cells that produce IL-2 when stimulated.</p>	<p>dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
			Assays for the activation of transcription through the NFKB response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFKB transcription factors and modulate expression of immunomodulatory genes. Exemplary assays for transcription through the NFKB response element that may be used or routinely modified to test NFKB-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Gri G, et al., Biol Chem, 273(11):6431-6438 (1998); Pyatt DW, et al., Cell Biol Toxicol 2000;16(1):41-51 (2000); Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA	Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Cancer, Autoimmunity, Allergy and Asthma	

335	HOUDE92	849	<p>Activation of transcription through NFKB response element in neuronal cells (such as SKNMC cells).</p>	<p>85:6342-6346 (1988); Valle Blazquez et al., Immunology 90(3):455-460 (1997); Aramburu et al., J Exp Med 82(3):801-810 (1995); and Fraser et al., 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. Immune cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary immune cells that may be used according to these assays include the Reh B-cell line.</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Neurological Diseases and Disorders (e.g. Alzheimer's Disease, Parkinson's Disease, Brain Cancer, Seizures).</p>
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335	HOUIDE92	849	<p>Activation of transcription through API response element in immune cells (such as T-cells).</p>	<p>810 (1995); and Fraser et al., 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. Neuronal cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary neuronal cells that may be used according to these assays include the SKNMC neuronal cell line.</p> <p>Assays for the activation of transcription through the API response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate growth and other cell functions. Exemplary assays for transcription through the API response element that may be used or routinely modified to test API-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1988); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Rellahan et al., J Biol Chem 272(49):30806-30811 (1997); Chang et al., Mol Cell Biol 18(9):4986-4993 (1998); and Fraser et al., Eur J Immunol 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety.</p> <p>Human T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T</p>	<p>Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis,</p>
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335	HOUE92	849	Activation of transcription through CD28 response element in immune cells (such as T-cells).	cells that may be used according to these assays include the SUPT cell line, which is an IL-2 and IL-4 responsive suspension-culture cell line. Assays for the activation of transcription through the CD28 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate IL-2 expression in T cells. Exemplary assays for transcription through the CD28 response element that may be used or routinely modified to test CD28-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malin, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); McGuire and Iacobelli, <i>J Immunol</i> 159(3):1319-1327 (1997); Parra et al., <i>J Immunol</i> 166(4):2437-2443 (2001); and Boutscher et al., <i>J Biol Chem</i> 273(1):552-560 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.	meningitis, and Lyme Disease.
				A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-2 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-2 production. Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Highly preferred indications include neoplastic diseases (e.g., melanoma, renal cell carcinoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, melanoma (e.g., metastatic melanoma), renal cell carcinoma (e.g., metastatic renal cell carcinoma), leukemia, lymphoma (e.g., T cell lymphoma), and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. A highly preferred indication includes	

335	HOUDE92	849	Activation of transcription through NFAT response element in immune cells (such as T-cells).	<p>Assays for the activation of transcription through the Nuclear Factor of Activated T cells (NFAT) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFAT transcription factors and modulate expression of genes involved in immunomodulatory functions. Exemplary assays for transcription through the NFAT response element that may be used or routinely modified to test NFAT-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm,</p>	<p>infection (e.g., AIDS, tuberculosis, infections associated with granulomatous disease, and osteoporosis, and/or as described below under "Infectious Disease"). A highly preferred indication is AIDS. Additional highly preferred indications include suppression of immune reactions to transplanted organs and/or tissues, uveitis, psoriasis, and tropical spastic paraparesis. Preferred indications include blood disorders (e.g., as described below under "Immune Activity"; "Blood-Related Disorders"; and/or "Cardiovascular Disorders"). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
				<p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity"; "Blood-Related Disorders"; and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. An additional highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary</p>	

335	HOUDE92	849	<p>Activation of transcription through STAT6 response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the Signal Transducers and Activators of Transcription (STAT6) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT6 transcription factors and modulate the expression of multiple genes. Exemplary assays for transcription through the STAT6 response element that may be used or routinely modified to test STAT6 response element activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-</p>	<p>Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Serfling et al., Biochim Biophys Acta 1498(1):1-18 (2000); De Boer et al., Int J Biochem Cell Biol 31(10):1221-1236 (1999); Fraser et al., Eur J Immunol 29(3):838-844 (1999); and Yessen et al., J Biol Chem 268(19):14285-14293 (1993), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.</p>	<p>cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
				<p>A highly preferred indication is allergy. Another highly preferred indication is asthma. Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic</p>		

335	HOUID592	849	Activation of transcription through NFKB response element in immune cells (such as T-cells).	<p>368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Georas et al., Blood 92(12):4529-4538 (1998); Moffatt et al., Transplantation 69(7):1521-1523 (2000); Curriel et al., Eur J Immunol 27(8):1982-1987 (1997); and Masuda et al., J Biol Chem 275(38):29331-29337 (2000), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.</p> <p>Assays for the activation of transcription through the NFKB response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFKB transcription factors and modulate expression of immunomodulatory genes. Exemplary assays for transcription through the NFKB response element that may be used or routinely modified to test NFKB-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Gnes 15(2):105-117 (1997); and Fraser et</p>	<p>conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
				<p>Highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), and immunodeficiencies (e.g., as described below). An additional highly preferred indication is infection (e.g., AIDS, and/or an infectious disease as described below under "Infectious Disease"). Highly preferred indications include neoplastic diseases (e.g., melanoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as melanoma, renal cell carcinoma, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred</p>	

335	HOUD592	849	<p>Activation of transcription through serum response element in immune cells (such as natural killer cells).</p>	<p>al., 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.</p> <p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types.</p> <p>Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are</p>	<p>indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, suppression of immune reactions to transplanted organs, asthma and allergy.</p>
				<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example,</p>	

336	HOUDR07	850	Activation of Skeletal Muscle Cell ERK Signalling Pathway	<p>publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK- YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic leukemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
				<p>Kinase assay. Kinase assays, for example Elk-1 kinase assays, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brustel Y, <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are</p>	<p>Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders") and disorders of the musculoskeletal system. Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypersmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease,</p>

337	HOUED72	851	<p>Activation of transcription through AP1 response element in immune cells (such as T-cells).</p>	<p>herein incorporated by reference in its entirety. Rat myoblast cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat myoblast cells that may be used according to these assays include L6 cells. L6 is an adherent rat myoblast cell line, isolated from primary cultures of rat thigh muscle, that fuses to form multinucleated myotubes and striated fibers after culture in differentiation media.</p>	<p>hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include: myopathy, atrophy, congestive heart failure, cachexia, myxomas, fibromas, congenital cardiovascular abnormalities, heart disease, cardiac arrest, heart valve disease, and vascular disease. Highly preferred indications include neoplasms and cancer, such as, rhabdomyoma, rhabdomyosarcoma, stomach, esophageal, prostate, and urinary cancer. Highly preferred indications also include breast, lung, colon, pancreatic, brain, and liver cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, hyperplasia, metaplasia, and/or dysplasia.</p> <p>Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases</p>
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338	HOUFS04	852	<p>other cell functions. Exemplary assays for transcription through the AP1 response element that may be used or routinely modified to test AP1-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1988); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Rellahan et al., J Biol Chem 272(49):30806-30811 (1997); Chang et al., Mol Cell Biol 18(9):4986-4993 (1998); and Fraser et al., Eur J Immunol 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension-culture cell line with cytotoxic activity.</p>	<p>(e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.</p>
			<p>Assays for the activation of Transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response</p>	<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkin's lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune</p>

338	HOUFS04	852	<p>element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henttinen et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Matikainen et al., Blood 93(6):1980-1991 (1999); and Henttinen et al., J Immunol 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the MOL14 cell line, that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
			<p>Assays for the activation of transcription through the NFkB response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFkB transcription factors and modulate expression of immunomodulatory genes. Exemplary assays for transcription through the NFkB response element that may be used or routinely modified to test NFkB-response element activity of polypeptides</p>	<p>Highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), and immunodeficiencies (e.g., as described below). An additional highly preferred indication is infection (e.g., AIDS, and/or an infectious disease as described below under "Infectious Disease"). Highly preferred indications include neoplastic diseases (e.g., melanoma, leukemia, lymphoma, and/or as described</p>

338	HOUS04	852	<p>of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Black et al., <i>Virus</i> 15(2):105-117 (1997); and Fraser et al., 29(3):338-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the MOL14, that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, melanoma, renal cell carcinoma, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, suppression of immune reactions to transplanted organs, asthma and allergy.</p>
			<p>CD152 FMAAT. CD152 (a.k.a. CTLA-4) expression is restricted to activated T cells. CD152 is a negative regulator of T cell proliferation. Reduced CD152 expression has been linked to hyperproliferative and autoimmune diseases. Overexpression of CD152 may lead to impaired immunoresponses. Assays for immunomodulatory proteins important in the maintenance of T cell homeostasis and expressed almost exclusively on CD4+ and CD8+ T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, maintain T cell homeostasis, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for</p>	<p>A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally,</p>

339	H0UHI25	853	<p>Activation of transcription through STAT6 response element in immune cells (such as T-cells).</p>	<p>immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD152, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); McCoy et al., Immunol Cell Biol 77(1):1-10 (1999); Oosterveegat et al., Curr Opin Immunol 11(3):294-300 (1999); and Saito T, Curr Opin Immunol 10(3):313-321 (1998), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy. An additional preferred indication is infection (e.g., as described below under "Infectious Disease").</p>	<p>A highly preferred indication is allergy. Another highly preferred indication is asthma. Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g.,</p>
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340	HOVBD85	854	<p>regulate STAT6 transcription factors and modulate the expression of multiple genes. Exemplary assays for transcription through the STAT6 response element that may be used or routinely modified to test STAT6 response element activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Georgas et al., <i>Blood</i> 92(12):4529-4538 (1998); Moffatt et al., <i>Transplantation</i> 69(7):1521-1523 (2000); Curiel et al., <i>Eur J Immunol</i> 27(8):1982-1987 (1997); and Masuda et al., <i>J Biol Chem</i> 275(38):29331-29337 (2000), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.</p> <p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-</p>	<p>rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease.</p> <p>An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
340	HOVBD85	854	<p>Activation of transcription through serum response element in immune cells (such as natural killer cells).</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple</p>

			<p>related genes in many cell types.</p> <p>Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
341	HPCAB41	855	<p>Activation of Endothelial Cell p38 or JNK Signaling Pathway.</p>	<p>Kinase assay. JNK and p38 kinase assays for signal transduction that regulate cell proliferation, activation, or apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of</p>

			<p>the invention) to promote or inhibit cell proliferation, activation, and apoptosis. Exemplary assays for JNK and p38 kinase activity that may be used or routinely modified to test JNK and p38 kinase-induced activity of polypeptides of the invention (including antihodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Gupta et al., <i>Exp Cell Res</i> 247(2):495-504 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary endothelial cells that may be used according to these assays include human umbilical vein endothelial cells (HUVEC), which are endothelial cells which line venous blood vessels, and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) endothelial cell activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) the activation of and/or inactivating endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization.</p>
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					<p>Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangioepithelioma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, stenosis, venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment/prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood</p>
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342	HPCAL26	856	<p>Activation of transcription through GAS response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Matikainen et al., <i>Blood</i> 93(6):1980-1991 (1999); and Hentinen et al., <i>J Immunol</i> 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary mouse T cells that</p>	<p>disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response.</p> <p>Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis.</p>
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343	HPAD23	857	Stimulation of Calcium Flux in pancreatic beta cells.	<p>may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the CTL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>	<p>include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytoma, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
				<p>Assays for measuring calcium flux are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mobilize calcium. For example, the FLPR assay may be used to measure influx of calcium. Cells normally have very low concentrations of cytosolic calcium compared to much higher extracellular calcium. Extracellular factors can cause an influx of calcium, leading to activation of calcium responsive signaling pathways and alterations in cell functions. Exemplary assays that may be used or routinely modified to measure calcium flux by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Satin L.S. et al. Endocrinology, 136(10):4589-4601 (1995); Mogami H. et al., Endocrinology, 136(7):2960-6 (1995); Richardson SB. et al., Biochem J. 288 (Pt 3):847-51 (1992); and, Meus, JE. et al., Cell Calcium 1989 Nov-Dec;10(8):535-41 (1989), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>

344	HPTBAs4	858	<p>Activation of transcription through AP1 response element in immune cells (such as T-cells).</p>	<p>according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777</p> <p>Refs: Lord and Ashcroft. Biochem. J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.</p>	<p>Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or</p>
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344	HPTBA54	858	Production of IFN γ using a T cell	<p>4993 (1998); and Fraser et al., Eur J Immunol 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension-culture cell line with cytotoxic activity.</p> <p>IFNγ plays a central role in the immune system and is considered to be a proinflammatory cytokine. IFNγ promotes TH1 and inhibits TH2 differentiation; promotes IgG2a and inhibits IgE secretion; induces macrophage activation; and increases MHC expression. Assays for immunomodulatory proteins produced by T cells and NK cells that regulate a variety of inflammatory activities and inhibit TH2 helper cell functions are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate immunomodulation, regulate inflammatory activities, modulate TH2 helper cell function, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as Interferon gamma (IFNγ), and the activation of T cells. Such assays that may be used or routinely modified to test</p>	<p>dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic Burkitt's lymphoma, plasmacytomas, multiple myeloma, bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.</p>
				<p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease"). Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiency (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional preferred indications include idiopathic pulmonary fibrosis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach,</p>	

345	HPFCT36	859	Production of MIP1alpha	<p>immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., J Clin Lab Anal 8(5):225-233 (1995); Billiau et al., Ann NY Acad Sci 856:22-32 (1998); Boehm et al., Annu Rev Immunol 15:749-795 (1997), and Rheumatology (Oxford) 38(3):214-20 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art.</p> <p>Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neuroptenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
				<p>MIP-1alpha FMAT. Assays for immunomodulatory proteins produced by activated dendritic cells that upregulate monocyte/macrophage and T cell chemotaxis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate chemotaxis, and modulate T cell differentiation. Exemplary assays that test</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating MIP1a production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MIP1a production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as</p>

			<p>for immunomodulatory proteins evaluate the production of chemokines, such as macrophage inflammatory protein 1 alpha (MIP-1a), and the activation of monocytes/macrophages and T cells. Such assays that may be used or routinely modified to test immunomodulatory and chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Erenin, <i>J R Coll Surg Ednb</i> 45(1):9-19 (2001); Drakes et al., <i>Transp Immunol</i> 8(1):17-29 (2000); Verhasselt et al., <i>J Immunol</i> 158:2919-2925 (1997); and Nardelli et al., <i>J Leukoc Biol</i> 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>Assays for measuring calcium flux are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mobilize calcium. For example, the FLPR assay may be used to</p>	<p>described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
345	HPFCT36	859	<p>Stimulation of Calcium Flux in pancreatic beta cells.</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to</p>

			<p>measure influx of calcium. Cells normally have very low concentrations of cytosolic calcium compared to much higher extracellular calcium. Extracellular factors can cause an influx of calcium, leading to activation of calcium responsive signaling pathways and alterations in cell functions. Exemplary assays that may be used or routinely modified to measure calcium flux by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Satin L.S, et al., <i>Endocrinology</i>, 136(10):4589-601 (1995); Mogami H, et al., <i>Endocrinology</i>, 136(7):2960-6 (1995); Richardson SB, et al., <i>Biochem J</i>, 288 (Pt 3):847-51 (1992); and, Meats, JE, et al., <i>Cell Calcium</i> 1989 Nov-Dec;10(8):535-41 (1989), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777</p> <p>Refs: Lord and Ashcroft, <i>Biochem J</i> 219: 547-551; Santerre et al. <i>Proc. Natl. Acad. Sci. USA</i> 78: 4339-4343, 1981.</p>	<p>diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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345	HPF136	859	<p>Activation of Skeletal Muscle Cell P13 Kinase Signaling Pathway</p>	<p>Kinase assay. Kinase assays, for example an GSK-3 kinase assay, for P13 kinase signal transduction that regulate glucose metabolism and cell survival are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit glucose metabolism and cell survival. Exemplary assays for P13 kinase activity that may be used or routinely modified to test P13 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Nikulina et al., <i>Diabetes</i> 49(2):263-271 (2000); and Schreyer et al., <i>Diabetes</i> 48(8):1662-1666 (1999), the contents of each of which are herein incorporated by reference in its entirety. Rat myoblast cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat myoblast cells that may be used according to these assays include L6 cells. L6 is an adherent rat myoblast cell line, isolated from primary cultures of rat thigh muscle, that fuses to form multinucleated myotubes and striated fibers after culture in differentiation media.</p>	<p>A highly preferred embodiment of the invention includes a method for increasing muscle cell survival. An alternative highly preferred embodiment of the invention includes a method for decreasing muscle cell survival. A preferred embodiment of the invention includes a method for stimulating muscle cell proliferation. In a specific embodiment, skeletal muscle cell proliferation is stimulated. An alternative highly preferred embodiment of the invention includes a method for inhibiting muscle cell proliferation. In a specific embodiment, skeletal muscle cell proliferation is inhibited. A preferred embodiment of the invention includes a method for stimulating muscle cell differentiation. In a specific embodiment, skeletal muscle cell differentiation is stimulated. An alternative highly preferred embodiment of the invention includes a method for inhibiting muscle cell differentiation. In a specific embodiment, skeletal muscle cell differentiation is inhibited. Highly preferred indications include disorders of the musculoskeletal system. Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), endocrine disorders (e.g., as described below under "Endocrine Disorders"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g. due to diabetic neuropathy), blood vessel blockage, heart disease,</p>
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				stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infections (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal system including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include: myopathy, atrophy, congestive heart failure, cachexia, myxomas, fibromas, congenital cardiovascular abnormalities, heart disease, cardiac arrest, heart valve disease, and vascular disease. Highly preferred indications include neoplasms and cancer, such as, rhabdomyoma, rhabdosarcoma, stomach, esophageal, prostate, and urinary cancer. Preferred indications also include breast, lung, colon, pancreatic, brain, and liver cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, hyperplasia, metaplasia, and/or dysplasia.
				A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy,
				Capase Apoptosis- Assays for caspase apoptosis are well known in the art and may be used or routinely modified to
				Regulation of apoptosis in pancreatic beta cells.
				860
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				<p>assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote caspase protease-mediated apoptosis. Apoptosis in pancreatic beta is associated with induction and progression of diabetes. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Loweth, AC, et al., FEBS Lett, 400(3):285-8 (1997); Saini, KS, et al., Biochem Mol Biol Int, 39(6):1229-36 (1996); Krauthelm, A., et al., Br J Pharmacol, 129(4):687-94 (2000); Chandra J. et al., Diabetes, 50 Suppl 1:844-7 (2001); Suk K, et al., J Immunol, 166(7):4481-9 (2001); Tejedo J, et al., FEBS Lett, 459(2):238-43 (1999); Zhang, S., et al., FEBS Lett, 455(3):315-20 (1999); Lee et al., FEBS Lett, 485(2-3): 122-126 (2000); Nor et al., J Vasc Res 37(3): 209-218 (2000); and Karsan and Harlan, J Atheroscler Thromb 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include RIN-m. RIN-m is a rat adherent pancreatic beta cell insulinoma cell line derived from a radiation induced transplantable rat islet</p>	<p>diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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347	HP1AA80	861	<p>cell tumor. The cells produce and secrete insulin, somatostatin, and possibly glucagon. ATTC: #CRL-2057 Chick et al. Proc. Natl. Acad. Sci. 1977 74:628; AF et al. Proc. Natl. Acad. Sci. 1980 77:3519.</p> <p>Activation of Adipocyte ERK Signaling Pathway</p>	<p>kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brustel Y, <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"). Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders", immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication</p>
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				<p>include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and</p>
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347	HPTAA80	861	Regulation of transcription of Malic Enzyme in adipocytes	<p>Assays for the regulation of transcription of Malic Enzyme are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate transcription of Malic Enzyme, a key enzyme in lipogenesis. Malic enzyme is involved in lipogenesis and its expression is stimulated by insulin. ME promoter contains two direct repeat (DR1)-like elements MEp and MEi identified as putative PPAR response elements. ME promoter may also respond to AP1 and other transcription factors. Exemplary assays that may be used or routinely modified to test for regulation of transcription of Malic Enzyme (in adipocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Streeter, R.S., et al., Mol Endocrinol, 12(11):1778-91 (1998); Garcia-Jimenez, C., et al., Mol Endocrinol, 8(10):1361-9 (1994); Barroso, L., et al., J Biol Chem, 274(25):17997-8004 (1999); Ippenber, A., et al., J Biol Chem, 272(32):20108-20117 (1997); Berger, et al., Gene 66:1-10 (1988); and, Cullen, B., et al., Methods in Enzymol. 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety. Hepatocytes that may be used</p>	<p>liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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348	HPB151	862	Production of IL-6	<p>according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary hepatocytes that may be used according to these assays includes the H4IIE rat liver hepatoma cell line.</p> <p>IL-6 FMAAT: IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases. Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention)</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "immune disorders (e.g., as described below under "immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
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				<p>include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhasselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
349	HPB151	863	Production of IL-6	<p>IL-6 FMAAT. IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases. Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include</p>

350	HPJBU43	864	<p>Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhasselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
			<p>CD152 FMA7. CD152 (a.k.a. CTLA-4) expression is restricted to activated T cells. CD152 is a negative regulator of T cell proliferation. Reduced CD152 expression has been linked to hyperproliferative and autoimmune diseases. Overexpression of CD152 may lead to impaired immunoresponses. Assays for immunomodulatory proteins important in the maintenance of T cell homeostasis and expressed almost exclusively on CD4+ and</p>	<p>A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or</p>

			<p>CD8+ T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, maintain T cell homeostasis, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD152, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); McCoy et al., <i>Immunol Cell Biol</i> 77(1):1-10 (1999); Oosterveeg et al., <i>Curr Opin Immunol</i> 11(3):294-300 (1999); and Saito T., <i>Curr Opin Immunol</i> 10(3):313-321 (1998), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to</p>	<p>"Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer.</p> <p>Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy. An additional preferred indication is infection (e.g., as described below under "Infectious Disease").</p>
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350	HPJBU43	864	Upregulation of CD69 and activation of T cells	<p>immunomodulatory factors.</p> <p>CD69 FMAT. CD69 is an activation marker that is expressed on activated T cells, B cells, and NK cells. CD69 is not expressed on resting T cells, B cells, or NK cells. CD69 has been found to be associated with inflammation. Assays for immunomodulatory proteins expressed in T cells, B cells, and leukocytes are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD69, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Ferenczi et al., <i>J Autoimmun</i> 14(1):63-78 (2001); Weir et al., <i>Allergy</i> 52(4):465-469 (1997); Taylor-Fishwick and Siegel, <i>Eur J Immunol</i> 25(12):3215-3221 (1995); and Afara et al., <i>Ann Rheum Dis</i> 52(6):457-460 (1993), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used</p>	<p>A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for activating B cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating B cells. A highly preferred embodiment of the invention includes a method for activating NK cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting activation of and/or inactivation NK cells. Highly preferred indications include inflammation and inflammatory disorders (e.g., as described below under "Immune Activity"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. An additional highly preferred indication includes infection (e.g., as described below under "Infectious Disease"). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia,</p>
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				<p>according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, asthma, and allergies. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
351	HP/CW58	865	Regulation of transcription through the FAS promoter element in hepatocytes	<p>Assays for the regulation of transcription through the FAS promoter element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to activate the FAS promoter element in a reporter construct and to regulate transcription of FAS, a key enzyme for lipogenesis. FAS promoter is regulated by many transcription factors including SREBP. Insulin increases FAS gene transcription in livers of diabetic mice. This stimulation of transcription is also somewhat glucose dependent. Exemplary assays that may be used or routinely modified to test for FAS promoter element activity (in hepatocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Xiong, S., et al., <i>Proc Natl Acad Sci U.S.A.</i>, 97(8):3948-53 (2000); Roder, K., et al., <i>Eur J Biochem</i>, 260(3):743-51 (1999); Oskouian B., et al., <i>Biochem J</i>, 317</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include</p>

352	HPMBX22	866	<p>(Pt 1):257-65 (1996); Berger, et al., Gene Methods in Enzymol. 216:362-368 (1992), 661-10 (1988); and, Cullen, B., et al., the contents of each of which is herein incorporated by reference in its entirety. Hepatocytes that may be used according to these assays, such as H4IIE cells, are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary hepatocytes that may be used according to these assays include rat liver hepatoma cell line(s) inducible with glucocorticoids, insulin, or cAMP derivatives.</p>	<p>weight loss or alternatively, weight gain. highly preferred indications are complications associated with insulin resistance.</p>
			<p>Production of IL-6</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described</p>

353	HPMCJ84	867	<p>production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhasselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>	<p>preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
			<p>Assays for the activation of transcription through the CD28 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate IL-2 expression in T cells. Exemplary assays for transcription through the CD28 response element that may be used or routinely modified to test CD28-response element activity of polypeptides of the invention (including antibodies and agonists or</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-2 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-2 production. Additional highly preferred</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-2 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-2 production. Additional highly preferred</p>

			<p>antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henhorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); McGuire and Iacobelli, <i>J Immunol</i> 159(3):1319-1327 (1997); Parra et al., <i>J Immunol</i> 166(4):2437-2443 (2001); and Buscher et al., <i>J Biol Chem</i> 31(1):552-560 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the JURKAT cell line, which is a suspension culture of leukemia cells that produce IL-2 when stimulated.</p>	<p>indications include inflammation and inflammatory disorders. Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. An additional highly preferred indication includes infection (e.g., AIDS, and/or as described below under "Infectious Disease"). Highly preferred indications include neoplastic diseases (e.g., melanoma, renal cell carcinoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, melanoma (e.g., metastatic melanoma), renal cell carcinoma (e.g., metastatic renal cell carcinoma), and leukemia, lymphoma (e.g., T cell lymphoma), and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. A highly preferred indication is infection (e.g., tuberculosis, infections associated with granulomatous disease, and osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). A highly preferred indication is AIDS. Additional highly preferred indications include suppression of immune reactions to transplanted organs and/or tissues, uveitis, psoriasis, and tropical spastic paraparesis. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, granulomatous disease,</p>
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354	IPMCV30	868	Production of ICAM-1	Assays for measuring expression of ICAM-1 are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate ICAM-1 expression. Exemplary assays that may be used or routinely modified to measure ICAM-1 expression include assays disclosed in: Takacs P, et al, FASEB J, 15(2):279-281 (2001); and, Miyamoto K, et al., Am J Pathol, 156(5):1733-1739 (2000), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include microvascular endothelial cells (MVEC).	inflammatory bowel disease, sepsis, neutropenia, neutrophilia, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy. Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Inflammation, Vascular Disease, Atherosclerosis, Restenosis, and Stroke
355	HPMFH77	869	Activation of transcription through serum response element in immune cells (such as T-cells).	Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE	A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated

			<p>activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malin, <i>Methods in Enzymol</i> 216:362-368 (1992); Henhorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988), and Black et al., <i>Virus Genes</i> 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	
356	HPQAX38	870	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p> <p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in</p>	
			<p>immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis,</p>	

357	HPQAX38	871	<p>growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1996); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
			<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under</p>

358	HPQCB83	872	<p>antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>"Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
	Activation of Endothelial Cell p38 or JNK Signaling		<p>Kinase assay. JNK and p38 kinase assays for signal transduction that regulate cell proliferation, activation, or apoptosis are</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the</p>

			<p>well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and apoptosis. Exemplary assays for JNK and p38 kinase activity that may be used or routinely modified to test JNK and p38 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9): 1101-1110 (1998); Gupta et al., <i>Exp Cell Res</i> 247(2): 495-504 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary endothelial cells that may be used according to these assays include human umbilical vein endothelial cells (HUVEC), which are endothelial cells which line venous blood vessels, and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) endothelial cell activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) the activation of and/or inactivating endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such</p>
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				<p>as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangiopericytoma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, stenosis; venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, pneumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment</p>
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359	HPQCC53	873	Production of MCP-1	<p>MCP-1 FMAT. Assays for immunomodulatory proteins that are produced by a large variety of cells and act to induce chemotaxis and activation of monocytes and T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, induce chemotaxis, and modulate immune cell activation. Exemplary assays that test for immunomodulatory proteins evaluate the production of cell surface markers, such as monocyte chemoattractant protein (MCP), and the activation of monocytes and T cells. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include</p>	<p>/prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) MCP-1 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MCP-1 production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes</p>
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360	HPRBH85	874	Stimulation of insulin secretion from pancreatic beta cells.	<p>assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Eremin, J R Coll Surg Edinb 45(1):9-19 (2001); and Verhaselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in:</p>	<p>mellitus, endocarditis, meningitis (bacterial and viral), Lyme Disease, asthma, and allergy Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
				<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious</p>	

361	HPRCA64	875	Activation of Adipocyte ERK Signaling Pathway	<p>Ahren, B., et al., <i>Am J Physiol</i>, 277(4 Pt 2):R959-66 (1999); Li, M., et al., <i>Endocrinology</i>, 138(9):3735-40 (1997); Kim, K.H., et al., <i>FEBS Lett</i>, 377(2):237-9 (1995); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al., <i>Endocrinology</i>, 1992, 130:167.</p>	<p>diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
				<p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as</p>	

			<p>include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brustel Y, <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>described below under "Endocrine Disorders". Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss</p>
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362	HPRC035	876	Stimulation of Calcium Flux in pancreatic beta cells.	<p>or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and</p>
			Assays for measuring calcium flux are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mobilize calcium. For example, the FLPR assay may be used to measure influx of calcium. Cells normally have very low concentrations of cytosolic calcium compared to much higher extracellular calcium. Extracellular factors can cause an influx of calcium, leading to activation of calcium responsive signaling pathways and alterations in cell functions. Exemplary assays that may be used or routinely modified to measure calcium flux by polypeptides of the invention (including antibodies and agonists or antagonists of	

363	HPTRM02	877	<p>the invention) include assays disclosed in: Saini L.S. et al., Endocrinology, 136(10):4589-601 (1995); Mogami H. et al., Endocrinology, 136(7):2960-6 (1995); Richardson SB. et al., Biochem J, 288 (Pt 3):847-51 (1992); and, Meats, JE, et al., Cell Calcium 1989 Nov-Dec;10(8):535-41 (1989), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. AITC# CRL-1777</p> <p>Refs: Lord and Ashcroft. Biochem. J 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.</p>	<p>impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
			<p>Regulation of viability and proliferation of pancreatic beta cells.</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar</p>

363	HPTRM02	877	<p>quantitation of the ATP present which signals the presence of metabolically active cells. Exemplary assays that may be used or routinely modified to test regulation of viability and proliferation of pancreatic beta cells by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ohani KI, et al., <i>Endocrinology</i>, 139(1):172-8 (1998); Krauthaim A, et al. <i>Exp Clin Endocrinol Diabetes</i>, 107 (1):29-34 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777; Refs: Lord and Ashcroft. <i>Biochem. J.</i> 219: 547-551; Sauter et al. <i>Proc. Natl. Acad. Sci. USA</i> 78: 4339-4343, 1981.</p> <p>Activation of transcription through GAS response element in immune cells (such as T-cells).</p>	<p>coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
			<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's</p>	

			antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al. Gene 66:1-10 (1998); Cullen and Malin, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Matikainen et al., Blood 93(6):1980-1991 (1999); and Henttinen et al., J Immunol 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary mouse T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the CTLL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.	disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.
364	HPWBA.29	878	Assays for the activation of transcription through the Nuclear Factor of Activated T cells (NFAT) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of	Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below),

364	HPWBA29	878	<p>the invention) to regulate NFAT transcription factors and modulate expression of genes involved in immunomodulatory functions. Exemplary assays for transcription through the NFAT response element that may be used or routinely modified to test NFAT-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Serfling et al., <i>Biochim Biophys Acta</i> 1498(1):1-18 (2000); De Boer et al., <i>Int J Biochem Cell Biol</i> 31(10):1221-1236 (1999); Fraser et al., <i>Eur J Immunol</i> 29(3):838-844 (1999); and Yeseen et al., <i>J Biol Chem</i> 268(19):14285-14293 (1993), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the JURKAT cell line, which is a suspension culture of leukemia cells that produce IL-2 when stimulated.</p>	<p>boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. An additional highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
			<p>the invention) to regulate NFAT transcription factors and modulate expression of genes involved in immunomodulatory functions. Exemplary assays for transcription through the NFAT response element that may be used or routinely modified to test NFAT-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Serfling et al., <i>Biochim Biophys Acta</i> 1498(1):1-18 (2000); De Boer et al., <i>Int J Biochem Cell Biol</i> 31(10):1221-1236 (1999); Fraser et al., <i>Eur J Immunol</i> 29(3):838-844 (1999); and Yeseen et al., <i>J Biol Chem</i> 268(19):14285-14293 (1993), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the JURKAT cell line, which is a suspension culture of leukemia cells that produce IL-2 when stimulated.</p>	<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon,</p>

365	HPWDK06	879	<p>the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Matikainen et al., <i>Blood</i> 93(6):1980-1991 (1999); and Hentinen et al., <i>J Immunol</i> 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the MOL T4 cell line, that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity"; "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
			<p>CD152 FMAT. CD152 (a.k.a. CTLA-4) expression is restricted to activated T cells. CD152 is a negative regulator of T cell proliferation. Reduced CD152 expression has been linked to hyperproliferative and autoimmune diseases. Overexpression of CD152 may lead to impaired immunoresponses. Assays for</p>	<p>A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for stimulating T cell</p>

				<p>immunomodulatory proteins important in the maintenance of T cell homeostasis and expressed almost exclusively on CD4+ and CD8+ T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, maintain T cell homeostasis, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD152, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); McCoy et al., <i>Immunol Cell Biol</i> 77(1):1-10 (1999); Oosterveeg et al., <i>Curr Opin Immunol</i> 11(3):294-300 (1999); and Saito T, <i>Curr Opin Immunol</i> 10(3):313-321 (1998), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These</p>	<p>proliferation. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity"; "Blood-Related Disorders"; and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, suppressing a T cell-mediated immune response. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy. An additional preferred indication is infection (e.g., as described below under "Infectious Disease").</p>
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366	HRAAD30	880	<p>cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p> <p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brustel Y, <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karm, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"). Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as</p>
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			<p>cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or</p>
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367	HRADA42	881	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>dysplasia.</p> <p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity"; "Blood-Related Disorders"; and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis,</p>
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368	HRADF49	882	Activation of Adipocyte ERK Signaling Pathway	<p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brustel Y, <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast</p>	<p>meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"). Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as</p>
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			<p>cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or</p>
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368	HRADF49	882	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 661:10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Hanthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>dysplasia.</p> <p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis,</p>
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369	HRA2N25	883	<p>meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative, preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anaemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia,</p>	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2): 105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>
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370	HRAD725	884	Production of IFN γ using a T cells	<p>neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease").</p> <p>Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), boosting a T immunodeficiency (e.g., as described below), suppressing a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional preferred indications include idiopathic pulmonary fibrosis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications</p>
				<p>IFNγ plays a central role in the immune system and is considered to be a proinflammatory cytokine. IFNγ promotes TH1 and inhibits TH2 differentiation; promotes IgG2a and inhibits IgE secretion; induces macrophage activation; and increases MHC expression. Assays for immunomodulatory proteins produced by T cells and NK cells that regulate a variety of inflammatory activities and inhibit TH2 helper cell functions are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, regulate inflammatory activities, modulate TH2 helper cell function, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as Interferon gamma (IFNγ), and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed</p>

			<p>in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., J Clin Lab Anal 8(5):225-233 (1995); Billiau et al., Ann NY Acad Sci 856:22-32 (1998); Boehm et al., Annu Rev Immunol 15:749-795 (1997), and Rheumatology (Oxford) 38(3):214-20 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>	
371	HRDA17	885	<p>Production of ICAM-1</p>	<p>Assays for measuring expression of ICAM-1 are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate ICAM-1 expression. Exemplary assays that may be used or routinely modified to measure ICAM-1 expression include assays disclosed in: Takacs P, et al, FASEB J, 15(2):279-281 (2001); and, Miyamoto K, et al., Am J Pathol, 156(5):1733-1739 (2000), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Inflammation, Vascular Disease, Atherosclerosis, Restenosis, and Stroke</p>

372	HRDDQ39	886	<p>Regulation of transcription via DMEF1 response element in adipocytes and pre-adipocytes</p>	<p>available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include microvascular endothelial cells (MVEC).</p> <p>Assays for the regulation of transcription through the DMEF1 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to activate the DMEF1 response element in a reporter construct (such as that containing the GLUT4 promoter) and to regulate insulin production. The DMEF1 response element is present in the GLUT4 promoter and binds to ME2 transcription factor and another transcription factor that is required for insulin regulation of Glut4 expression in skeletal muscle. GLUT4 is the primary insulin-responsive glucose transporter in fat and muscle tissue. Exemplary assays that may be used or routinely modified to test for DMEF1 response element activity (in adipocytes and pre-adipocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Thai, M.V., et al., <i>J Biol Chem</i>, 273(23):4285-92 (1998); Mora, S., et al., <i>J Biol Chem</i>, 275(21):16323-8 (2000); Liu, M.L., et al., <i>J Biol Chem</i>, 269(45):28514-21 (1994); "Identification of a 30-base pair regulatory element and novel DNA binding protein that regulates the human GLUT4 promoter in transgenic mice", J</p>	<p>A highly preferred indication is diabetes mellitus.</p> <p>An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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372	HRDDQ39	886	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992);</p>	<p>Biol Chem. 2000 Aug 4;275(31):23660-73; Berger, et al., Gene 66:1-10 (1988); and, Cullen, B., et al., Methods in Enzymol. 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety. Adipocytes and pre-adipocytes that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include the mouse 3T3-L1 cell line which is an adherent mouse preadipocyte cell line. Mouse 3T3-L1 cells are a continuous substrain of 3T3 fibroblasts developed through clonal isolation. These cells undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation culture conditions.</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders"; and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases</p>
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372	HRDDQ39	886	<p>Stimulation of insulin secretion from pancreatic beta cells.</p>	<p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin</p>

373	HRDR22	887	<p>secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., <i>Am J Physiol</i>, 277(4 Pt 2):R959-66 (1999); Li, M., et al., <i>Endocrinology</i>, 138(9):3735-40 (1997); Kim, K.H., et al., <i>FEBS Lett</i>, 377(2):237-9 (1995); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. <i>Endocrinology</i>, 1992, 130:167.</p>	<p>endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
			<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies</p>

			used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.	<p>(e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
			Assays for the regulation of transcription through the FAS promoter element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to activate the FAS promoter element in a reporter construct	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease,</p>
374	HRDEX93	888	Regulation of transcription through the FAS promoter element in hepatocytes	

375	HRDFK37	889	<p>and to regulate transcription of FAS, a key enzyme for lipogenesis. FAS promoter is regulated by many transcription factors including SREBP. Insulin increases FAS gene transcription in livers of diabetic mice. This stimulation of transcription is also somewhat glucose dependent.</p> <p>Exemplary assays that may be used or routinely modified to test for FAS promoter element activity (in hepatocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Xiong, S., et al., <i>Proc Natl Acad Sci U.S.A.</i>, 97(8):3948-53 (2000); Roder, K., et al., <i>Eur J Biochem</i>, 260(3):743-51 (1999); Oskanian B, et al., <i>Biochem J</i>, 317 (Pt 1):257-65 (1996); Berger, et al., <i>Gene</i> 66:1-10 (1988); and, Cullen, B., et al., <i>Methods in Enzymol</i> 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety.</p> <p>Hepatocytes that may be used according to these assays, such as H4IIE cells, are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary hepatocytes that may be used according to these assays include rat liver hepatoma cell line(s) inducible with glucocorticoids, insulin, or cAMP derivatives.</p>	<p>stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), cupal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
			<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF-alpha production. Preferred indications include blood disorders (e.g., as described below under</p>

376	HRGBD54	890	<p>antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Main, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>"Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
			<p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the</p>	<p>IFNγ plays a central role in the immune system and is considered to be a proinflammatory</p>

			<p>cytokine. IFNγ promotes TH1 and inhibits TH2 differentiation; promotes IgG2a and inhibits IgE secretion; induces macrophage activation; and increases MHC expression. Assays for immunomodulatory proteins produced by T cells and NK cells that regulate a variety of inflammatory activities and inhibit TH2 helper cell functions are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, regulate inflammatory activities, modulate TH2 helper cell function, and/or mediate humoral or cell-mediated immunity.</p> <p>Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as Interferon gamma (IFNγ), and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Mraaglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach", Chapter 6:138-160 (2000); Gonzalez et al., <i>J Clin Lab Anal</i> 8(5):225-233 (1995); Billiau et al., <i>Ann NY Acad Sci</i> 856:22-32 (1998); Boelgm et al., <i>Annu Rev Immunol</i> 15:749-795 (1997), and <i>Rheumatology</i> (Oxford) 38(3):214-20 (1999), the contents of each of which are herein incorporated</p>	<p>invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease").</p> <p>Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiency (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional preferred indications include idiopathic pulmonary fibrosis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
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377	HROEA08	891	<p>by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p> <p>Activation of Adipocyte ERK Signaling Pathway</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"). Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity")</p>
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			<p>be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is a complication. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity.</p> <p>Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as: lymphoma, leukemia and</p>
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378	HSVA08	892	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTL cell line, which is an IL-2 dependent suspension culture of T cells</p>	<p>breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia,</p>
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378	HSA VA08	892	Production of IL-5	with cytotoxic activity.	<p>thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-5 production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-5 production. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) immunoglobulin production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) immunoglobulin production. A highly preferred indication includes allergy. A highly preferred indication includes asthma. A highly preferred indication includes rhinitis. An additional highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred</p>
					<p>IL-5 FMAT. Assays for immunomodulatory proteins secreted by TH2 cells, mast cells, basophils, and eosinophils that stimulate eosinophil function and B cell Ig production and promote polarization of CD4+ cells into TH2 cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, stimulate immune cell function, modulate B cell Ig production, modulate immune cell polarization, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-5, and the stimulation of eosinophil function and B cell Ig production. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed</p>

379	HSA/VW42	803	<p>in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Ohshima et al., Blood 92(9):3338-3345 (1998); Jung et al., Eur J Immunol 25(8):2413-2416 (1995); Mori et al., J Allergy Clin Immunol 106(1 Pt 2):558-564 (2000); and Koning et al., Cytokine 9(6):427-436 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease.</p>
			<p>Assays for measuring calcium flux are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mobilize calcium. For example, the FLPR assay may be used to measure influx of calcium. Cells normally have very low concentrations of cytosolic calcium compared to much higher extracellular calcium. Extracellular factors can cause an influx of calcium, leading to activation of calcium responsive signaling pathways and alterations in cell functions. Exemplary assays that may be used or</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia,</p>

380	HSAWN53	894	Production of ICAM-1	<p>routinely modified to measure calcium flux by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Satin LS, et al., Endocrinology, 136(10):4389-601 (1995); Mogami H, et al., Endocrinology, 136(7):2960-6 (1995); Richardson SB, et al., Biochem J, 288 (Pt 3):847-51 (1992); and, Meats, JE, et al., Cell Calcium 1989 Nov-Dec;10(8):535-41 (1989), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777 Refs: Lord and Ashcroft. Biochem. J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.</p> <p>Assays for measuring expression of ICAM-1 are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate ICAM-1 expression. Exemplary assays that may be used or routinely</p>	<p>endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
				<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Vascular Disease, Atherosclerosis, Restenosis, Stroke, and Asthma.</p>	

381	HSW/Z40	895	Production of ICAM-1	<p>modified to measure ICAM-1 expression include assays disclosed in: Rolfe BE, et al., <i>Atherosclerosis</i>, 149(1):99-110 (2000); Panietieri RA Jr, et al., <i>J Immunol</i>, 154(5):2358-2365 (1995); and, Grunstein MM, et al., <i>Am J Physiol Lung Cell Mol Physiol</i>, 278(6):L1154-L1163 (2000), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include Aortic Smooth Muscle Cells (AOSMC); such as bovine AOSMC.</p> <p>Assays for measuring expression of ICAM-1 are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate ICAM-1 expression. Exemplary assays that may be used or routinely modified to measure ICAM-1 expression include assays disclosed in: Takacs P, et al., <i>FASEB J</i>, 15(2):279-281 (2001); and, Miyamoto K, et al., <i>Am J Pathol</i>, 156(5):1733-1739 (2000), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include microvascular endothelial cells (MVEC).</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Inflammation, Vascular Disease, Atherosclerosis, Restenosis, and Stroke</p>
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382	HSAYC41	896	<p>Stimulation of insulin secretion from pancreatic beta cells.</p>	<p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., <i>Am J Physiol</i>, 277(4 Pt 2):R959-66 (1999); Li, M., et al., <i>Endocrinology</i>, 138(9):3735-40 (1997); Kim, K.H., et al., <i>FEBS Lett.</i>, 377(2):237-9 (1995); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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383	HSDZM54	897	<p>characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. <i>Endocrinology</i> 1992 130:167.</p> <p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Benson et al., <i>J Immunol</i> 153(9):3862-3873 (1994); and Black et al., <i>Virus Genes</i> 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia,</p>
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384	HSHBF76	898	Endothelial Cell Apoptosis	<p>Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote caspase protease-mediated apoptosis. Induction of apoptosis in endothelial cells supporting the vasculature of tumors is associated with tumor regression due to loss of tumor blood supply. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Lee et al., <i>HEBS Lett</i> 485(2-3): 122-126 (2000); Nor et al., <i>J Vasc Res</i> 37(3): 209-218 (2000); and Karsan and Harlan, <i>J Atheroscler Thromb</i> 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary endothelial cells that may be used according to these assays include bovine aortic endothelial cells (bAEC), which are an example of</p>	<p>neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic</p>
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				<p>endothelial cells which line blood vessels but are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p> <p>overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangioepithelioma, lymphangioendothelioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, stenosis; venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly</p>
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384	HSHBF76	898	<p>IL-6 FMAT: IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases. Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate</p>	<p>preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment /prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory</p>
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385	HSIFG47	899	Endothelial Cell Apoptosis	<p>immunomodulation and differentiation and modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhaselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>Caspase Apoptosis: Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote caspase protease-mediated apoptosis. Induction of apoptosis in endothelial cells supporting the vasculature</p>	<p>disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
386	HSIFG47	899	Endothelial Cell Apoptosis	<p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly</p>	

			<p>of tumors is associated with tumor regression due to loss of tumor blood supply. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Lee et al., <i>FEBS Lett</i> 485(2-3): 122-126 (2000); Nor et al., <i>J Vasc Res</i> 37(3): 209-218 (2000); and Karsan and Harlan, <i>J Atheroscler Thromb</i> 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary endothelial cells that may be used according to these assays include bovine aortic endothelial cells (bAEC), which are an example of endothelial cells which line blood vessels and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioidendelioma.</p>
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				<p>angiosarcoma, haemangiopericytoma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, stenosis; venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment/prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic</p>
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					<p>themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization.</p> <p>Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), gliomas, tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangiopericytoma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, stenosis, venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphoedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment/prevention of endometriosis and related conditions.</p>
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387	HSKDR27	901	Endothelial Cell Apoptosis	<p>Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote caspase protease-mediated apoptosis. Induction of apoptosis in endothelial cells supporting the vasculature of tumors is associated with tumor regression due to loss of tumor blood supply. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Lee et al., <i>FEBS Lett</i> 485(2-3): 122-126 (2000); Nor et al., <i>J Vasc Res</i> 37(3): 209-218 (2000); and Karsan and Harlan, <i>J Atheroscler Thromb</i> 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used</p>	<p>Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and</p>
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				<p>according to these assays are publicly available (e.g., through commercial sources). Exemplary endothelial cells that may be used according to these assays include bovine aortic endothelial cells (bAEC), which are an example of endothelial cells which line blood vessels and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangiopericytoma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, stenosis; venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also</p>
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387	HSKDR27	901	<p>Proliferation, differentiation, and/or cytokine production in immune cells (such as T-cells).</p>	<p>Kinase assays, for example kinase assays for members of the MAP kinase family (including p38, JAK, and ERK) are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, differentiation, and/or cytokine production in immune cells such as T-cells. Exemplary assays for MAP kinase family members that may be used or routinely modified to test polypeptides</p>	<p>include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment/prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p>
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387	HSKDR27	901	Production of IL-4	<p>of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Kincon M., <i>Curr Opin Immunol</i>, 13(3):339-345 (2001); Wang LH, et al., <i>J Immunol</i>, 162(7):3897-3904 (1999); Sakamoto H, et al., <i>J Biol Chem</i>, 275(46):35857-35862 (2000), the contents of each of which are herein incorporated by reference in its entirety. Exemplary immune cells (for example, T-cells) that may be used according to these assays include the mouse CTL cell line.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-4 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-4 production. A highly preferred indication includes asthma. A highly preferred indication includes allergy. A highly preferred indication includes rhinitis. Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic</p>
				<p>IL-4 FMAT: Assays for immunomodulatory proteins secreted by TH2 cells that stimulate B cells, T cells, macrophages and mast cells and promote polarization of CD4+ cells into TH2 cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, stimulate immune cells, modulate immune cell polarization, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-4, and the stimulation of immune cells, such as B cells, T cells, macrophages and mast cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J</p>	

388	HSLHG78	902	Production of IL-6	<p>IL-6 FMAT. IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases. Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability</p>	<p>Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., J Clin Lab Anal 8(5):277-283 (1994); Yssel et al., Res Immunol 144(8):610-616 (1993); Bagley et al., Nat Immunol 1(3):257-261 (2000); and van der Graaff et al., Rheumatology (Oxford) 38(3):214-220 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
				<p>IL-6 FMAT. IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases. Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-</p>	

			<p>of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhaselt et al., <i>J Immunol</i> 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
388	HSLHG78	902	<p>Production of MCP-1</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) MCP-1 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MCP-1 production. A highly preferred indication is infection (e.g., an infectious disease as</p>

			<p>activated dendritic cells that upregulate monocyte/macrophage and T cell chemotaxis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate chemotaxis, and modulate T cell differentiation. Exemplary assays that test for immunomodulatory proteins evaluate the production of chemokines, such as macrophage inflammatory protein 1 alpha (MIP-1a), and the activation of monocytes/macrophages and T cells. Such assays that may be used or routinely modified to test immunomodulatory and chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Eremin, J R Coll Surg Edn 45(1):9-19 (2001); Drakes et al., Transp Immunol 8(1):17-29 (2000); Verhasselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture.</p>	<p>alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MIP1a production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., neuromatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
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389	HSLHX15	903	<p>which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>Upregulation of HLA-DR and activation of T cells</p>	<p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and alternatively, suppressing a T cell-mediated immune response.</p> <p>A highly preferred indication is diabetes mellitus.</p> <p>An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypersmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture).</p> <p>An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly</p>
			<p>Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of MHC class II products, such as HLA-DR antigens, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Lamour et al., Clin Exp Immunol 89(2):217-222 (1992); Hurne and Sihvola, Immunol Lett 20(3):217-222 (1989); Gansbacher and Zier, Cell Immunol</p>	

390	HSNAP85	904	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>117(1):22-34 (1988); and Itoh et al., <i>J Histochem Cytochem</i> 40(11):1675-1683, the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. An additional preferred indication is infection (e.g., AIDS, and/or as described below under "Infectious Disease"). Preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"), and neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancer, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy.</p> <p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis,</p>
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391	HSNAZ09	905	<p>growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
			<p>CD154 FMAT. CD154 (a.k.a., CD40L) expression is induced following activation of T cells. Interaction between CD154 and CD40 on B cells is required for correct antibody class switching and germinal center formation. Mutations in CD154 are</p>	<p>A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. Highly preferred indications include blood disorders (e.g., as described below under "Immune</p>

				<p>linked to immunodeficiencies and increased susceptibility to infections. Assays for immunomodulatory proteins important for antibody class switching and TH1 function and expressed on activated T helper lymphocytes are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, modulate antibody class switching, mediate TH1 function, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD154, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "T lymphocytes: a practical approach" Chapter 6:138-160 (2000); Mackey et al., J Leukoc Biol 63(4):418-428 (1998); and Skov et al., 164(7):3500-3505 (2000), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and</p>	<p>Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., AIDS). Preferred indications include boosting a T cell-mediated immune response, and alternatively, suppressing a T cell-mediated immune response. Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme disease, inflammation and inflammatory disorders, and asthma and allergy.</p>
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392	HSNBM34	906	<p>Regulation of DMEF1 response element in adipocytes and pre-adipocytes</p>	<p>express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p> <p>Assays for the regulation of transcription through the DMEF1 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to activate the DMEF1 response element in a reporter construct (such as that containing the GLUT4 promoter) and to regulate insulin production. The DMEF1 response element is present in the GLUT4 promoter and binds to MEF2 transcription factor and another transcription factor that is required for insulin regulation of Glut4 expression in skeletal muscle. GLUT4 is the primary insulin-responsive glucose transporter in fat and muscle tissue. Exemplary assays that may be used or routinely modified to test for DMEF1 response element activity (in adipocytes and pre-adipocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Thai, M.V., et al., J Biol Chem, 273(23):14285-92 (1998); Mora, S., et al., J Biol Chem, 275(21):16323-8 (2000); Liu, M.L., et al., J Biol Chem, 269(45):28514-21 (1994); "Identification of a 30-base pair regulatory element and novel DNA binding protein that regulates the human GLUT4 promoter in transgenic mice", J</p>	<p>A highly preferred indication is diabetes mellitus.</p> <p>An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic neuropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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393	HSOAH16	907	Production of IFN γ using a T cells	<p>Biol Chem. 2000 Aug 4;275(31):23666-73. Berger, et al., Gene 66:1-10 (1988); and, Cullen, B., et al., Methods in Enzymol. 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety. Adipocytes and pre-adipocytes that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include the mouse 3T3-L1 cell line which is an adherent mouse preadipocyte cell line. Mouse 3T3-L1 cells are a continuous substrain of 3T3 fibroblasts developed through clonal isolation. These cells undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation culture conditions.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease"). Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiency (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory</p>
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			<p>helper cell function, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as Interferon gamma (IFNγ), and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach", Chapter 6:138-160 (2000); Gonzalez et al., J Clin Lab Anal 8(5):225-233 (1995); Billiau et al., Ann NY Acad Sci 856:22-32 (1998); Boehm et al., Annu Rev Immunol 15:749-795 (1997), and Rheumatology (Oxford) 38(3):214-20 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>disorders. Additional preferred indications include idiopathic pulmonary fibrosis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
394	HSQB66	908	<p>IL-5 FMAAT: Assays for immunomodulatory proteins secreted by TH2 cells, mast cells, basophils, and eosinophils that stimulate eosinophil</p>	<p>A highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-5 production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g.,</p>

			<p>function and B cell Ig production and promote polarization of CD4⁺ cells into TH2 cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, stimulate immune cell function, modulate B cell production, modulate immune cell polarization, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-5, and the stimulation of eosinophil function and B cell Ig production. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Ohshima et al., <i>Blood</i> 92(9):3338-3345 (1998); Jung et al., <i>Eur J Immunol</i> 25(8):2413-2416 (1995); Mori et al., <i>J Allergy Clin Immunol</i> 106(1 Pt 2):558-564 (2000); and Koning et al., <i>Cytokine</i> 9(6):427-436 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are</p>	<p>increasing IL-5 production. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) immunoglobulin production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) immunoglobulin production. A highly preferred indication includes allergy. A highly preferred indication includes asthma. An additional preferred indication includes rhinitis. A highly preferred indication includes infection (e.g., an infectious disease as described below under "Infectious Disease"), and inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders"; and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease.</p>
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395	HSQD085	909	Activation of Endothelial Cell p38 or JNK Signaling Pathway.	<p>primary human lymphocytes that mature in the thymus and express a T cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p> <p>Kinase assay JNK and p38 kinase assays for signal transduction that regulate cell proliferation, activation, or apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and apoptosis. Exemplary assays for JNK and p38 kinase activity that may be used or routinely modified to test JNK and p38 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Gupta et al., <i>Exp Cell Res</i> 247(2):495-504 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary endothelial cells that may be used according to these assays include human umbilical vein endothelial</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) endothelial cell activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) the activation of and/or inactivating endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the</p>
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				<p>cells (HUVEC) which are endothelial cells which line venous blood vessels, and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangioepithelioma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, restenosis; venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease and cancer. Highly preferred indications also</p>
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396	HSQES57	910	Production of TNF alpha by dendritic cells	<p>TNFα FMAT. Assays for immunomodulatory proteins produced by activated macrophages, T cells, fibroblasts, smooth muscle, and other cell types that exert a wide variety of inflammatory and cytotoxic effects on a variety of cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate inflammation and cytotoxicity. Exemplary</p>	<p>include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment/prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p>
				<p>A highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and</p>	

396	HSQES57	910	<p>assays that test for immunomodulatory proteins evaluate the production of cytokines such as tumor necrosis factor alpha (TNFα), and the induction or inhibition of an inflammatory or cytotoxic response. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Verhasselt et al., Eur J Immunol 28(11):3886-3890 (1998); Dahlen et al., J Immunol 160(7):3585-3593 (1998); Verhasselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
			<p>Activation of Natural Killer Cell ERK Signaling Pathway.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating natural killer cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting natural killer cell proliferation. A highly preferred embodiment of the invention includes a method for</p>

397	HSRBD6	911	<p>invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Natural killer cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary natural killer cells that may be used according to these assays include the human natural killer cell lines (for example, NK-YT cells which have cytolytic and cytotoxic activity) or primary NK cells.</p>	<p>stimulating natural killer cell differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting natural killer cell differentiation. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity") and infections (e.g., as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below) and highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include cancers such as, kidney, melanoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, urinary cancer, lymphoma and leukemias. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Other highly preferred indications include, pancytopenia, leukopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), arthritis, asthma, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, immune reactions to transplanted organs and tissues, endocarditis, meningitis, Lyme Disease, and allergies.</p>
			<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g.,</p>

398	HSSDI26	912	Production of IL-6	as T-cells.	<p>ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>increasing TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention</p>
					<p>IL-6 FMAI: IL-6 is produced by T cells</p>	

			<p>and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases.</p> <p>Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function.</p> <p>Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhasselt et al., J Immunol 138:2919-2925 (1997), the contents of each of which are herein incorporated by</p>	<p>includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer.</p> <p>Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia,</p>
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			reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.		
398	HSSD126	912	Activation of Endothelial Cell p38 or JNK Signaling Pathway.	<p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) endothelial cell activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) the activation of and/or inactivating endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include</p>	<p>hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>

			<p>may be used according to these assays include human umbilical vein endothelial cells (HUVEC), which are endothelial cells which line venous blood vessels, and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangiopericytoma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, stenosis, venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema;</p>
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399	HSSE64	913	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be</p>	<p>and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment/prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p> <p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies</p>
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400	HSSEF77	914	<p>Proliferation, differentiation, and/or cytokine production in immune cells (such as T-cells).</p>	<p>used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malin, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>(e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of inflammation, infection, allergy, asthma, autoimmunity, and cancer.</p>
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400	HSSEF77	914	Insulin Secretion	<p>proliferation, differentiation, and/or cytokine production in immune cells such as T-cells. Exemplary assays for MAP kinase family members that may be used or routinely modified to test polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Rincon M., <i>Curr Opin Immunol</i>; 13(3):339-345 (2001); Wang LH, et al., <i>J Immunol</i>, 162(7):3897-3904 (1999); Sakamoto H, et al., <i>J Biol Chem</i>, 273(46):35857-35862 (2000), the contents of each of which are herein incorporated by reference in its entirety. Exemplary immune cells (for example, T-cells) that may be used according to these assays include the mouse CTL1 cell line.</p> <p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in:</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious</p>
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401	HSPF38	915	Activation of transcription through serum response element in immune cells (such as T-cells).	<p>Shimizu, H., et al., <i>Endocr J</i>, 47(3):261-9 (2000); Salapatek, A.M., et al., <i>Mol Endocrinol</i>, 13(8):1305-17 (1999); Filipsson, K., et al., <i>Ann N.Y. Acad. Sci.</i>, 865:441-4 (1998); Olson, L.K., et al., <i>J Biol Chem</i>, 271(28):16544-52 (1996); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777</p> <p>Refs: Lord and Ashcroft. <i>Biochem. J.</i> 219: 547-551; Santerre et al. <i>Proc. Natl. Acad. Sci. USA</i> 78: 4339-4343, 1981.</p>	<p>diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
			<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple</p>	

			transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 661-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.	sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").
401	HSSF38	915	Upregulation of CD152 and activation of T cells	A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. An alternative highly preferred embodiment

			<p>immunoresponses. Assays for immunomodulatory proteins important in the maintenance of T cell homeostasis and expressed almost exclusively on CD4⁺ and CD8⁺ T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, maintain T cell homeostasis, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD152, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); McCoy et al., <i>Immunol Cell Biol</i> 77(1):1-10 (1999); Oosterveeg et al., <i>Curr Opin Immunol</i> 11(3):294-300 (1999); and Saito T., <i>Curr Opin Immunol</i> 10(3):313-321 (1998), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell</p>	<p>of the invention includes a method for stimulating T cell proliferation. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy. An additional preferred indication is infection (e.g., as described below under "Infectious Disease").</p>
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402	HSSG58	916	Production of ICAM-1	<p>receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p> <p>Assays for measuring expression of ICAM-1 are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate ICAM-1 expression. Exemplary assays that may be used or routinely modified to measure ICAM-1 expression include assays disclosed in: Takacs P, et al, FASEB J, 15(2):279-281 (2001); and, Miyamoto K, et al., Am J Pathol, 156(5):1733-1739 (2000), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include microvascular endothelial cells (MVEC).</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Inflammation, Vascular Disease, Atherosclerosis, Restenosis, and Stroke</p>
403	HSWBE76	917	Production of IL-5	<p>IL-5 FMAT. Assays for immunomodulatory proteins secreted by TH2 cells, mast cells, basophils, and eosinophils that stimulate eosinophil function and B cell Ig production and promote polarization of CD4+ cells into TH2 cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to</p>	<p>A highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-5 production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-5 production. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) immunoglobulin production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) immunoglobulin production. A highly preferred indication includes allergy.</p>

				<p>mediate immunomodulation, stimulate immune cell function, modulate B cell Ig production, modulate immune cell polarization, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-5, and the stimulation of eosinophil function and B cell Ig production. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and antagonists of the invention) include the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Ohshima et al., <i>Blood</i> 92(9):3338-3345 (1998); Jung et al., <i>Eur J Immunol</i> 25(8):2413-2416 (1995); Mori et al., <i>J Allergy Clin Immunol</i> 106(1 Pt 2):558-564 (2000); and Koning et al., <i>Cytokine</i> 9(6):427-436 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>preferred indication includes asthma. A highly preferred indication includes rhinitis. An additional highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"), and inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease.</p>
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404	HSXCP38	918	<p>Activation of transcription through serum response element in immune cells (such as natural killer cells).</p>	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Heathorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Benson et al., <i>J Immunol</i> 153(9):3862-3873 (1994); and Black et al., <i>Virus Genes</i> 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK-2T cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytoma, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and</p>
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405	HSYB106	919	Production of ICAM-1	<p>Assays for measuring expression of ICAM-1 are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate ICAM-1 expression. Exemplary assays that may be used or routinely modified to measure ICAM-1 expression include assays disclosed in: Rolfe BE, et al., Atherosclerosis, 149(1):99-110 (2000); Panettieri RA Jr, et al., J Immunol, 154(5):2358-2365 (1995); and, Grunstein MM, et al., Am J Physiol Lung Cell Mol Physiol, 278(6):L1154-L1163 (2000), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include Aortic Smooth Muscle Cells (AOSMC); such as bovine AOSMC.</p>	<p>asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Vascular Disease, Atherosclerosis, Restenosis, Stroke, and Asthma.</p>
406	HT1SC27	920	Activation of Endothelial Cell p38 or JNK Signaling Pathway.	<p>Kinase assay. JNK and p38 kinase assays for signal transduction that regulate cell proliferation, activation, or apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and apoptosis. Exemplary assays for JNK and p38 kinase</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method</p>

			<p>activity that may be used or routinely modified to test JNK and p38 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Gupta et al., <i>Exp Cell Res</i> 247(2): 495-504 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary endothelial cells that may be used according to these assays include human umbilical vein endothelial cells (HUVEC), which are endothelial cells which line venous blood vessels, and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) endothelial cell activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) the activation of and/or inactivating endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid</p>
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				<p>tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangiopericytoma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, stenosis; venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment/prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include</p>
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407	HT3BF49	921	Production of IL-4	<p>autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-4 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-4 production. A highly preferred indication includes asthma. A highly preferred indication includes allergy. A highly preferred indication includes rhinitis. Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS,</p>
				<p>IL-4 FMAT: Assays for immunomodulatory proteins secreted by TH2 cells that stimulate B cells, T cells, macrophages and mast cells and promote polarization of CD4+ cells into TH2 cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, stimulate immune cells, modulate immune cell polarization, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-4, and the stimulation of immune cells, such as B cells, T cells, macrophages and mast cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., J Clin Lab Anal 8(5):277-283 (1994); Yssel et al., Res Immunol 144(8):610-616 (1993); Bagley et al., Nat</p>

407	HT3BF49	921	Production of IL-5	<p>Immunol. 13(3):257-261 (2000); and van der Graaff et al., Rheumatology (Oxford) 38(3):214-220 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p> <p>IL-5 FMA: Assays for immunomodulatory proteins secreted by TH2 cells, mast cells, basophils, and eosinophils that stimulate eosinophil function and B cell Ig production and promote polarization of CD4+ cells into TH2 cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, stimulate immune cell function, modulate B cell Ig production, modulate immune cell polarization, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-5, and the stimulation of eosinophil function and B cell Ig production. Such assays that may be used or routinely modified to test</p>	<p>granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
				<p>A highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-5 production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-5 production. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) immunoglobulin production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) immunoglobulin production. A highly preferred indication includes allergy. A highly preferred indication includes asthma. A highly preferred indication includes rhinitis. An additional highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"), and inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and</p>	

408	HT4FV41	922	<p>immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Ohshima et al., <i>Blood</i> 92(9):3338-3345 (1998); Jung et al., <i>Eur J Immunol</i> 25(8):2413-2416 (1995); Mori et al., <i>J Allergy Clin Immunol</i> 106(1 Pt 2):558-564 (2000); and Koning et al., <i>Cytokine</i> 9(6):427-436 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease.</p>
			<p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by EMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar</p>

409	HT5FX79	923	<p>proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., <i>Am J Physiol</i>, 277(4 Pt 2):R959-66 (1999); Li, M., et al., <i>Endocrinology</i>, 138(9):3735-40 (1997); Kim, K.H., et al., <i>FEBS Lett.</i> 377(2):237-9 (1995); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al., <i>Endocrinology</i>, 1992, 130:167.</p>	<p>coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
				<p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred</p>

			<p>agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Bruel Y, <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipocyte-like conversion under appropriate differentiation conditions known in the art.</p>	<p>embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders").</p> <p>Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine</p>
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410	HT5GR59	924	<p>Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional</p>	<p>Assays for the activation of transcription through the AP1 response element are known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate growth and other cell functions. Exemplary assays for transcription through the AP1 response element that may be used or routinely</p>	<p>Activation of transcription through AP1 response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the AP1 response element are known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate growth and other cell functions. Exemplary assays for transcription through the AP1 response element that may be used or routinely</p>
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410	HT5GR59	924	Stimulation of insulin secretion from pancreatic beta cells.	<p>modified to test API-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1988); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Rellahan et al., J Biol Chem 272(49):30806-30811 (1997); Chang et al., Mol Cell Biol 18(9):4986-4993 (1998); and Fraser et al., Eur J Immunol 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension-culture cell line with cytotoxic activity.</p>	<p>highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.</p>
				<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia,</p>	

411	HTAE178	925	<p>secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., <i>Am J Physiol</i>, 277(4 Pt 2):R959-66 (1999); Li, M., et al., <i>Endocrinology</i>, 138(9):3735-40 (1997); Kim, K.H., et al., <i>FEBS Lett</i>, 377(2):237-9 (1995); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. <i>Endocrinology</i> 1992 130:167.</p>	<p>endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
	Upregulation of HLA-DR and activation of T cells		<p>HLA-DR FMA17. MHC class II is essential for correct presentation of antigen to CD4+ T cells. Deregulation of MHC class II has been associated with autoimmune diseases (e.g., diabetes, rheumatoid arthritis, systemic lupus erythematosus, and multiple sclerosis). Assays for immunomodulatory proteins expressed on MHC class II expressing T cells and antigen presenting cells are well known in the art and may be used or routinely modified to assess the</p>	<p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and alternatively, suppressing a T cell-mediated immune response. A highly preferred indication is diabetes mellitus. An additional highly preferred indication</p>

			<p>ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of MHC class II products, such as HLA-DR antigens, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Lamour et al., Clin Exp Immunol 89(2):217-222 (1992); Hurne and Silvola, Immunol Lett 20(3):217-222 (1989); Gansbacher and Zier, Cell Immunol 117(1):22-34 (1988); and Itoh et al., J Histochem Cytochem 40(11):1675-1683, the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to</p>	<p>is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease and renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. An additional preferred indication is infection (e.g., AIDS, and/or as described below under "Infectious Disease"). Preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"), and neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancer, such as, for example, leukemia, lymphoma, and prostate, breast,</p>
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412	HTDAA78	926	Production of ICAM-1	<p>Assays for measuring expression of ICAM-1 are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate ICAM-1 expression. Exemplary assays that may be used or routinely modified to measure ICAM-1 expression include assays disclosed in: Rofe BE, et al., Atherosclerosis, 149(1):99-110 (2000); Panettieri RA Jr, et al., J Immunol, 154(5):2358-2365 (1995); and, Grunstein MM, et al., Am J Physiol Lung Cell Mol Physiol, 278(6):L1154-L1163 (2000), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include Aortic Smooth Muscle Cells (AOSMC);</p>	<p>immunomodulatory factors.</p>	<p>lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy.</p> <p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Vascular Disease, Atherosclerosis, Restenosis, Stroke, and Asthma.</p>
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412	HTDAA78	926	Activation of Natural Killer Cell ERK Signaling Pathway.	<p>such as bovine AOSMC.</p> <p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Natural Killer cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary natural killer cells that may be used according to these assays include the human natural killer cell lines (for example, NK-YT cells which have cytolytic and cytotoxic activity) or primary NK cells.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating natural killer cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting natural killer cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating natural killer cell differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting natural killer cell differentiation. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity") and infections (e.g., as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include cancers such as, kidney, melanoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, urinary cancer, lymphoma and leukemias. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Other highly preferred indications include, pancytopenia, leukopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), arthritis, asthma, AIDS, granulomatous disease, inflammatory bowel disease,</p>
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413	HTEAG62	927	<p>Activation of Adipocyte PI3 Kinase Signalling Pathway</p>	<p>Kinase assay. Kinase assays, for example a GSK-3 assays, for PI3 kinase signal transduction that regulate glucose metabolism and cell survival are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit glucose metabolism and cell survival. Exemplary assays for PI3 kinase activity that may be used or routinely modified to test PI3 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Nikoulina et al., <i>Diabetes</i> 49(2):263-271 (2000); and Schreyer et al., <i>Diabetes</i> 48(8):1662-1666 (1999), the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>sepsis, psoriasis, immune reactions to transplanted organs and tissues, endocarditis, meningitis, Lyme Disease, and allergies.</p> <p>A highly preferred embodiment of the invention includes a method for increasing adipocyte survival. An alternative highly preferred embodiment of the invention includes a method for decreasing adipocyte survival. A preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"). Preferred indications include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"), blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to</p>
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413	HTEAG62	927	Regulation of transcription of Malic	<p>diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p> <p>Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein.</p> <p>Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Highly preferred indications include neoplasms and cancer, such as, lipoma, liposarcoma, lymphoma, leukemia and breast, colon, and kidney cancer. Additional highly preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred indication is diabetes mellitus.</p> <p>An additional highly preferred indication is a complication</p>
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		Enzyme in adipocytes	<p>and may be used or routinely modified to assess the ability of polypeptides and the invention (including antibodies and agonists or antagonists of the invention) to regulate transcription of Malic Enzyme, a key enzyme in lipogenesis. Malic enzyme is involved in lipogenesis and its expression is stimulated by insulin. ME promoter contains two direct repeat (DR1)-like elements. MEp and MEf identified as putative PPARG response elements. ME promoter may also respond to AP1 and other transcription factors. Exemplary assays that may be used or routinely modified to test for regulation of transcription of Malic Enzyme (in adipocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Strepper, R.S., et al., <i>Mol Endocrinol</i>, 12(11):1778-91 (1998); Garcia-Jimenez, C., et al., <i>Mol Endocrinol</i>, 8(10):1361-9 (1994); Barroso, I., et al., <i>J Biol Chem</i>, 274(25):7997-8004 (1999); Ijpenberg, A., et al., <i>J Biol Chem</i>, 272(32):20108-20117 (1997); Berger, et al., <i>Gene</i> 66:1-10 (1988); and, Cullen, B., et al., <i>Methods in Enzymol</i>, 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety. Hepatocytes that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary hepatocytes that may be used according to these assays includes the H4IIE rat liver hepatoma cell line.</p>	<p>associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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414	HTECB02	928	Production of ICAM-1	Assays for measuring expression of ICAM-1 are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate ICAM-1 expression. Exemplary assays that may be used or routinely modified to measure ICAM-1 expression include assays disclosed in: Takacs P, et al, FASEB J, 15(2):279-281 (2001); and, Miyamoto K, et al., Am J Pathol, 156(5):1733-1739 (2000), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include microvascular endothelial cells (MVEC).	Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Inflammation, Vascular Disease, Atherosclerosis, Restenosis, and Stroke
415	HTECC15	929	Activation of transcription through NFKB response element in neuronal cells (such as SKNMC cells).	Assays for the activation of transcription through the NFKB response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFKB transcription factors and modulate expression of neuronal genes. Exemplary assays for transcription through the NFKB response element that may be used or routinely modified to test NFKB-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Gill JS, et al.,	Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Neurological Diseases and Disorders (e.g. Alzheimer's Disease, Parkinson's Disease, Brain Cancer, Seizures).

416	HTEDF18	930	Production of MIP1alpha	<p>Neurobiol Dis. 7(4):448-461 (2000); Tamatani M. et al., J Biol Chem, 274(13):8531-8538 (1999); Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henhorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Valle Blazquez et al., Immunology 90(3):455-460 (1997); Aramburu et al., J Exp Med 82(3):801-810 (1995); and Fraser et al., 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. Neuronal cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary neuronal cells that may be used according to these assays include the SKNMC neuronal cell line.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating MIP1a production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MIP1a production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS,</p>
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417	HTED28	931	<p>chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Erenun, J R Coll Surg Edn 45(1):9-19 (2001); Drake et al., Transp Immunol 8(1):17-29 (2000); Verhasselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
			<p>Kinase assay. Kinase assays, for example an Elk-1 Kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly</p>

			<p>agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brustel Y, <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders").</p> <p>Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity.</p>
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417	HTEDJ28	931	Activation of transcription through NFAT response element in immune cells (such as natural killer cells).	Assays for the activation of transcription through the Nuclear Factor of Activated T cells (NFAT) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFAT transcription factors and modulate expression of genes involved in immunomodulatory functions. Exemplary assays for transcription through the NFAT response element that may be used or routinely modified to test NFAT-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention)	Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.
					Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. An additional highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancer, such as, for example,

			<p>include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Aramburu et al., J Exp Med 182(3):801-810 (1995); De Boer et al., Int J Biochem Cell Biol 31(10):1221-1236 (1999); Fraser et al., Eur J Immunol 29(3):838-844 (1999); and Yessen et al., J Biol Chem 268(19):14285-14293 (1993), the contents of each of which are herein incorporated by reference in its entirety. NK cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human NK cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
418	HTEDS12	932	<p>Activation of Adipocyte ERK Signaling Pathway</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"). Highly preferred indications also include neoplastic</p>

			<p>(1998); Le Marchand-Brustel Y, <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriaki JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness) ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with</p>
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419	HTTED26	933	Activation of transcription through GAS response element in immune cells (such as T-cells).	Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992);	<p>insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under</p>
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420	HTED26	934	<p>Activation of transcription through GAS response element in immune cells (such as T-cells).</p>	<p>Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Matikainen et al., Blood 93(6):1980-1991 (1999); and Hentinen et al., J Immunol 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary mouse T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the CTLL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>	<p>"Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or</p>
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421	HTEIF26	935	<p>85:6342-6346 (1988); Matikainen et al., Blood 93(6):1980-1991 (1999), and Henttinen et al., J Immunol 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary mouse T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the CTLL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>	<p>"Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating MIP1a production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MIP1a production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues,</p>
			<p>MIP-1alpha FMT. Assays for immunomodulatory proteins produced by activated dendritic cells that upregulate monocyte/macrophage and T cell chemotaxis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate chemotaxis, and modulate T cell differentiation. Exemplary assays that test for immunomodulatory proteins evaluate the production of chemokines, such as macrophage inflammatory protein 1 alpha (MIP-1a), and the activation of monocytes/macrophages and T cells. Such assays that may be used or routinely modified to test immunomodulatory and chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention)</p>	

			include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Eremim, J R Coll Surg Edinb 45(1):9-19 (2001); Drake et al., Transp Immunol 8(1):17-29 (2000); Verhasselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.	hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.
422	HTEEP26	936	Production of MIP1alpha	<p>A highly preferred embodiment of the invention includes a method for stimulating MIP1a production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MIP1a production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute</p>

423	HTTEW69	937	<p>Assays that may be used or routinely modified to test immunomodulatory and chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Eremin, J R Coll Surg Edinb 45(1):9-19 (2001); Drakes et al., Transp Immunol 8(1):17-29 (2000); Verhasselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
			<p>Assays for the activation of transcription through the cAMP response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to increase cAMP, bind to CREB transcription factor, and modulate expression of genes involved in a wide variety of cell functions. Exemplary assays for transcription through the cAMP response element that may be used or</p>	<p>Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly</p>

			<p>routinely modified to test cAMP-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malin, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Genes 15(2):105-117 (1997); and Belkowski et al., J Immunol 161(2):659-665 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p> <p>Exemplary human T cells that may be used according to these assays include the JURKAT cell line, which is a suspension culture of leukemia cells that produce IL-2 when stimulated.</p>	<p>preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemias, lymphomas (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkin's lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
423	HTEEW 69	937	<p>Activation of transcription through GAS response element in immune cells (such as T-cells).</p>	<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemias, lymphomas (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkin's lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and</p>

423	HTEEW69	937	<p>antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Mattikainen et al., Blood 93(6):1980-1991 (1999); and Hentinen et al., J Immunol 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the MOLT4 cell line, that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme disease, and asthma and allergy.</p>
			<p>Assays for the activation of transcription through the NFkB response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFkB transcription factors and modulate expression of immunomodulatory genes. Exemplary assays for transcription through the NFkB response element that may be used or routinely modified to test NFkB-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm,</p>	<p>Highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), and immunodeficiencies (e.g., as described below). An additional highly preferred indication is infection (e.g., AIDS, and/or an infectious disease as described below under "Infectious Disease"). Highly preferred indications include neoplastic diseases (e.g., melanoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, melanoma, renal cell carcinoma, leukemia, lymphoma, and prostate, breast, lung, colon,</p>

423	HTEEW69	937	Activation of transcription through NFKB response element in immune cells (such as B-cells).	<p>Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Gnes 15(2):105-117 (1997); and Fraser et al., 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the MOLT4, that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilia, psoriasis, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, suppression of immune reactions to transplanted organs, asthma and allergy.</p>
			<p>Assays for the activation of transcription through the NFKB response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFKB transcription factors and modulate expression of immunomodulatory genes. Exemplary assays for transcription through the NFKB response element that may be used or routinely modified to test NFKB-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Gri G. et al., Biol Chem, 273(11):6431-6438 (1998); Pyatt DW, et al., Cell Biol Toxicol 2000;16(1):41-51 (2000); Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Valle Blazquez et al., Immunology 90(3):455-460 (1997);</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Cancer, Autoimmunity, Allergy and Asthma</p>	

423	HITEW69	937	Upregulation of CD152 and activation of T cells	<p>Aramburu et al., J Exp Med 87(3):801-810 (1995); and Fraser et al., 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. Immune cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary immune cells that may be used according to these assays include the Rch B-cell line.</p> <p>CD152 FMAT. CD152 (a.k.a. CTLA-4) expression is restricted to activated T cells. CD152 is a negative regulator of T cell proliferation. Reduced CD152 expression has been linked to hyperproliferative and autoimmune diseases. Overexpression of CD152 may lead to impaired immunoresponses. Assays for immunomodulatory proteins important in the maintenance of T cell homeostasis and expressed almost exclusively on CD4+ and CD8+ T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, maintain T cell homeostasis and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD152, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or</p>	<p>A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
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			antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); McCoy et al., Immunol Cell Biol 77(1):1-10 (1999); Oostervegal et al., Curr Opin Immunol 11(3):294-300 (1999); and Salto T, Curr Opin Immunol 10(3):313-321 (1998), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.	Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, inflammation and inflammatory disorders, and asthma and allergy. An additional preferred indication is infection (e.g., as described below under "Infectious Disease").
424	HTEGS07	938	Activation of transcription through serum response element in immune cells (such as T-cells).	A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and

				<p>include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
425	HTEGS11	939	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated</p>

426	HTFHA56	940	<p>activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Herthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
			<p>Kinase assay. Kinase assays, for example an Elk-1 Kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly</p>

			<p>activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brustel Y, <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders").</p> <p>Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and</p>
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426	HTEHA56	940	Activation of Adipocyte P13 Kinase Signalling Pathway	<p>Kinase assay. Kinase assays, for example an GSK-3 assays, for P13 kinase signal transduction that regulate glucose metabolism and cell survival are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit glucose metabolism and cell survival. Exemplary assays for P13 kinase activity that may be used or routinely modified to</p>	<p>impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred embodiment of the invention includes a method for increasing adipocyte survival. An alternative highly preferred embodiment of the invention includes a method for decreasing adipocyte survival. A preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. Highly</p>
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			<p>test PI3 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Nikolaou et al., <i>Diabetes</i> 49(2):263-271 (2000); and Schreyer et al., <i>Diabetes</i> 48(8):1662-1666 (1999). The contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"). Preferred indications include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"), blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders"; and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications</p>
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427	HTEHU59	941	Calcium flux in chondrocytes	<p>Assays for measuring calcium flux are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mobilize calcium. Cells normally have very low concentrations of cytosolic calcium compared to much higher extracellular calcium. Extracellular factors can cause an influx of calcium, leading to activation of calcium responsive signaling pathways and alterations in cell functions. Exemplary assays that may be used or routinely modified to measure calcium flux in chondrocytes include assays disclosed in: Asada S, et al., <i>Inflamm Res</i>, 50(1):19-23 (2001);</p>	<p>associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein.</p> <p>Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Highly preferred indications include neoplasms and cancer, such as, lipoma, liposarcoma, lymphoma, leukemia and breast, colon, and kidney cancer. Additional highly preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Bone and Cartilage Diseases, including but not limited to Arthritis, Cartilage repair, Bone Repair, Osteoporosis, and related tumors including chondrosarcomas, chondroblastomas, and chondromas.</p>
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427	HTEHU59	941	<p>Activation of transcription through GAS response element in immune cells (such as T-cells).</p>	<p>Schwartz Z, et al., <i>J Bone Miner Res</i>, 6(7):705-718 (1991); Iamotti JP, et al., <i>J Bone Joint Surg Am</i>, 67(1): 113-120 (1985); Sullivan E., et al., <i>Methods Mol Biol</i> 1999; 114:125-133 (1999), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include bovine chondrocytes.</p>	<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis,</p>
				<p>Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malin, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Matikainen et al., <i>Blood</i> 93(6):1980-1991 (1999); and Henttinen et al., <i>J Immunol</i> 155(10):4582-</p>	

428	HTEID29	942	<p>4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the SUP7 cell line, that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
			<p>Assays for measuring calcium flux are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mobilize calcium. For example, the FLPR assay may be used to measure influx of calcium. Cells normally have very low concentrations of cytosolic calcium compared to much higher extracellular calcium. Extracellular factors can cause an influx of calcium, leading to activation of calcium responsive signaling pathways and alterations in cell functions. Exemplary assays that may be used or routinely modified to measure calcium flux by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Satin L.S., et al., Endocrinology, 136(10):4589-601 (1995); Mogami H., et al., Endocrinology, 136(7):2960-6 (1995); Richardson S.B., et al., Biochem J, 288 (Pt 3):847-51 (1992); and, Meats, J.E., et al., Cell Calcium 1989 Nov-Dec;10(8):535-41</p>	<p>A highly preferred indication is diabetes mellitus.</p> <p>An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include</p>

429	HTEKM46	943	<p>(1989), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777</p> <p>Refs: Lord and Ashcroft. <i>Biochem. J.</i> 219: 547-551; Santerre et al. <i>Proc. Natl. Acad. Sci. USA</i> 78: 4339-4343, 1981.</p>	<p>weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
			<p>Assays for measuring calcium flux are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mobilize calcium. Cells normally have very low concentrations of cytosolic calcium compared to much higher extracellular calcium. Extracellular factors can cause an influx of calcium, leading to activation of calcium responsive signaling pathways and alterations in cell functions. Exemplary assays that may be used or routinely modified to measure calcium flux in chondrocytes include assays disclosed in: Asada S, et al., <i>Inflamm Res</i>, 30(1):19-23 (2001); Schwartz Z, et al., <i>J Bone Miner Res</i>,</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Bone and Cartilage Diseases, including but not limited to Arthritis, Cartilage repair, Bone Repair, Osteoporosis, and related tumors including chondrosarcomas, chondroblastomas, and chondromas.</p>

430	HTMQ17	944	<p>Regulation of apoptosis of immune cells (such as mast cells).</p>	<p>6(7):709-718 (1991); Iannotti JP, et al., J Bone Joint Surg Am, 67(1): 113-120 (1985); Sullivan E, et al., Methods Mol Biol 1999; 114:125-133 (1999), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include bovine chondrocytes.</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of asthma, allergy, hypersensitivity and inflammation.</p>
			<p>Regulation of apoptosis of immune cells (such as mast cells).</p>	<p>Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate caspase protease-mediated apoptosis in immune cells (such as, for example, in mast cells). Mast cells are found in connective and mucosal tissues throughout the body and their activation via immunoglobulin E-antigen, promoted by T helper cell type 2 cytokines, is an important component of allergic disease. Dysregulation of mast cell apoptosis may play a role in allergic disease and mast cell tumor survival. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity induced by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Masuda A, et al., J Biol Chem, 276(28):26107-26113 (2001); Yeatman CF 2nd, et al., J Exp</p>	

431	HTENR63	945	Regulation of transcription through the PEPCK promoter in hepatocytes	<p>Med. 192(8):1093-1103 (2000); Lee et al., FEBS Lett 485(2-3): 122-126 (2000); Nor et al., J Vasc Res 37(3): 209-218 (2000); and Karan and Harlan, J Atheroscler Thromb 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Immune cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary immune cells that may be used according to these assays include mast cells such as the HMC human mast cell line.</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., an infectious diseases or disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity.</p>
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432	HTGGM44	946	<p>reference in its entirety. Hepatocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary liver hepatoma cells that may be used according to these assays include H4IIE cells, which contain a tyrosine amino transferase that is inducible with glucocorticoids, insulin, or cAMP derivatives.</p>	<p>Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal system including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include glycogen storage disease (e.g., glycogenoses), hepatitis, gallstones, cirrhosis of the liver, degenerative or necrotic liver disease, alcoholic liver diseases, fibrosis, liver regeneration, metabolic disease, dyslipidemia and cholesterol metabolism, and hepatocarcinomas. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), infection (e.g., an infectious disease and/or disorder as described below under "Infectious Disease"), endocrine disorders (e.g., as described below under "Endocrine Disorders"), and neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"). Additional preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, and urinary cancer. A highly preferred indication is liver cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic</p>
			<p>Assays for the regulation of viability and proliferation of cells in vitro are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of</p>	

			<p>the invention) to regulate viability and proliferation of pancreatic beta cells. For example, the Cell Titer-Glo luminescent cell viability assay measures the number of viable cells in culture based on quantitation of the ATP present which signals the presence of metabolically active cells. Exemplary assays that may be used or routinely modified to test regulation of viability and proliferation of pancreatic beta cells by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Friedrichsen BN, et al., <i>Mol Endocrinol</i>, 15(1):136-48 (2001); Huotari MA, et al., <i>Endocrinology</i>, 139(4):1494-9 (1998); Hugl SR, et al., <i>J Biol Chem</i> 1998 Jul 10;273(28):17711-9 (1998), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al., <i>Endocrinology</i>, 1992, 130:167.</p>	<p>neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
433	HTHBZ06	947	<p>Stimulation of insulin secretion from pancreatic beta cells.</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy).</p>

			<p>of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., <i>Am J Physiol</i>, 277(4 Pt 2):R959-66 (1999); Li, M., et al., <i>Endocrinology</i>, 138(9):3735-40 (1997); Kim, K.H., et al., <i>FEBS Lett</i>, 377(2):237-9 (1995); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Afari et al.</p>	<p>diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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434	HTLAP64	948	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>Endocrinology 1992; 130:167.</p> <p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henihorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis,</p>
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435	HTLBT80	949	<p>Activation of Adipocyte ERK Signaling Pathway</p> <p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9): 1101-1110 (1998); Le Marchand-Brustel Y, <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast</p>	<p>meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders").</p> <p>Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as</p>
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			cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.	<p>described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin)). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or</p>
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435	HTLBT80	949	<p>Activation of transcription through the EGR (Early Growth Response) element in immune cells (such as B-cells).</p>	<p>Assays for the activation of transcription through the EGR response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate EGR transcription factors and modulate expression of immunomodulatory genes. Exemplary assays for transcription through the EGR response element that may be used or routinely modified to test EGR response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Richards JD, et al. J Immunol. 166(6):3855-3864 (2001); Dunkel, A. et al., J Exp Med. 188(12):2215-2224 (1998); and, Newlon, JS, et al., Eur J Immunol 1996 Apr;26(4):811-816 (1996), the contents of each of which are herein incorporated by reference in its entirety. Immune cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary immune cells that may be used according to these assays include the Raji B-cell line.</p>	<p>dysplasia.</p> <p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Cancer, Autoimmunity, Allergy and Asthma.</p>
435	HTLBT80	949	<p>Activation of transcription through the EGR (Early Growth Response) element in immune cells (such as B-cells).</p>	<p>Assays for the activation of transcription through the EGR response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate EGR transcription factors and modulate expression of immunomodulatory genes. Exemplary assays for transcription through the EGR response element that may be used or routinely modified to test EGR response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Richards JD, et al. J Immunol. 166(6):3855-3864 (2001); Dunkel, A. et al., J Exp Med. 188(12):2215-2224 (1998); and, Newlon, JS, et al., Eur J Immunol 1996 Apr;26(4):811-816 (1996), the contents of each of which are herein incorporated by reference in its entirety. Immune cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary immune cells that may be used according to these assays include the Raji B-cell line.</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Cancer, Autoimmunity, Allergy and Asthma.</p>

435	HTLBT80	949	<p>expression of immunomodulatory genes. Exemplary assays for transcription through the EGR response element that may be used or routinely modified to test EGR response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Richards JD, et al., <i>J Immunol</i>, 166(6):3855-3864 (2001); Dinkel, A. et al., <i>J Exp Med</i>, 188(12):2215-2224 (1998); and, Newton, JS, et al., <i>Eur J Immunol</i> 1996 Apr;26(4):811-816 (1996), the contents of each of which are herein incorporated by reference in its entirety. Immune cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary immune cells that may be used according to these assays include the Raji B-cell line.</p> <p>Assays for the activation of transcription through the NFkB response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFkB transcription factors and modulate expression of immunomodulatory genes. Exemplary assays for transcription through the NFkB response element that may be used or routinely modified to test NFkB-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Gri G, et al., <i>Biol Chem</i>, 273(1):6431-6438 (1998);</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Cancer, Autoimmunity, Allergy and Asthma</p>
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436	HTLDA84	950	Production of IFN γ using a T cells	<p>Pyatt DW, et al., Cell Biol Toxicol 2000;16(1):41-51 (2000); Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Valle Blazquez et al, Immunology 90(3):455-460 (1997); Arambourau et al., J Exp Med 82(3):801-810 (1995); and Fraser et al., 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. Immune cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary immune cells that may be used according to these assays include the Reh B-cell line.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease").</p> <p>Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), boosting a T immunodeficiency (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional preferred indications include idiopathic pulmonary fibrosis. Highly preferred</p>
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			<p>Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as Interferon gamma (IFNγ), and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., <i>J Clin Lab Anal</i> 8(5):225-233 (1995); Billiau et al., <i>Ann NY Acad Sci</i> 856:22-32 (1998); Boehm et al., <i>Annu Rev Immunol</i> 15:749-795 (1997), and <i>Rheumatology</i> (Oxford) 38(3):214-20 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
437	HTLDN29	951	<p>Production of MCP-1</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) MCP-1 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MCP-1 production. A highly preferred indication is infection (e.g., an infectious disease as</p>

				<p>modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, induce chemotaxis, and modulate immune cell activation. Exemplary assays that test for immunomodulatory proteins evaluate the production of cell surface markers, such as monocyte chemoattractant protein (MCP), and the activation of monocytes and T cells. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Erenin, J R Coll Surg Edn 45(1):9-19 (2001); and Verhasselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>described below under "Infectious Disease"). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis (bacterial and viral), Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
437	HTLDN29	951	Production of MIP1alpha	<p>Assays for immunomodulatory proteins produced by MIP1alpha EMAT.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating MIP1a production. An</p>

			<p>activated dendritic cells that upregulate monocyte/macrophage and T cell chemotaxis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate chemotaxis, and modulate T cell differentiation. Exemplary assays that test for immunomodulatory proteins evaluate the production of chemokines, such as macrophage inflammatory protein 1 alpha (MIP-1a), and the activation of monocytes/macrophages and T cells. Such assays that may be used or routinely modified to test immunomodulatory and chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Eremin, <i>J R Coll Surg Edinb</i> 45(1):9-19 (2001); Drakes et al., <i>Trans Immunol</i> 8(1):17-29 (2000); Verhasselt et al., <i>J Immunol</i> 158:2919-2925 (1997); and Nardelli et al., <i>J Leukoc Biol</i> 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are amigen presenting cells in suspension culture.</p>	<p>alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MIP1a production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute myelocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
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438	HTLDU78	952	<p>Regulation of viability and proliferation of pancreatic beta cells.</p>	<p>which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>Assays for the regulation of viability and proliferation of cells in vitro are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate viability and proliferation of pancreatic beta cells. For example, the Cell Titer-Glo luminescent cell viability assay measures the number of viable cells in culture based on quantitation of the ATP present which signals the presence of metabolically active cells. Exemplary assays that may be used or routinely modified to test regulation of viability and proliferation of pancreatic beta cells by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Friedrichsen BN, et al., Mol Endocrinol, 15(1):136-48 (2001); Huotari MA, et al., Endocrinology, 139(4):1494-9 (1998); Hugl SR, et al., J Biol Chem 1998 Jul 10;273(28):17711-9 (1998), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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438	HTLDU78	952	<p>Proliferation, differentiation, and/or cytokine production in immune cells (such as T-cells).</p>	<p>X-ray induced rat transplantable insulinitis. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. Endocrinology 1992 130:167.</p> <p>Kinase assays, for example kinase assays for members of the MAP kinase family (including p38, JAK, and ERK) are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, differentiation, and/or cytokine production in immune cells such as T-cells. Exemplary assays for MAP kinase family members that may be used or routinely modified to test polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Rincon M., Curr Opin Immunol; 13(3):339-345 (2001); Wang LH, et al., J Immunol, 162(7):3897-3904 (1999); Sakamoto H, et al., J Biol Chem, 275(46):35857-35862 (2000), the contents of each of which are herein incorporated by reference in its entirety. Exemplary immune cells (for example, T-cells) that may be used according to these assays include the mouse CTL L cell line.</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of inflammation, infection, allergy, asthma, autoimmunity, and cancer.</p>
438	HTLDU78	952	<p>Production of IL-6</p>	<p>IL-6 FMAAT. IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred</p>

			<p>cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases. Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhasselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the</p>	<p>indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
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439	HTLEC82	953	<p>art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>Assays for the activation of transcription through the API response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate growth and other cell functions. Exemplary assays for transcription through the API response element that may be used or routinely modified to test API-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1988); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Hanthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Rellahan et al., <i>J Biol Chem</i> 272(49):30806-30811 (1997); Chang et al., <i>Mol Cell Biol</i> 18(9):4986-4993 (1998); and Fraser et al., <i>Eur J Immunol</i> 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the SUPT cell line, which is an IL-2 and IL-4 responsive suspension-culture cell line.</p>	<p>Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.</p>
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440	HTL1616	954	<p>Regulation of apoptosis of immune cells (such as mast cells).</p>	<p>Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate caspase protease-mediated apoptosis in immune cells (such as, for example, in mast cells). Mast cells are found in connective and mucosal tissues throughout the body, and their activation via immunoglobulin E-antigen, promoted by T helper cell type 2 cytokines, is an important component of allergic disease. Dysregulation of mast cell apoptosis may play a role in allergic disease and mast cell tumor survival. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity induced by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Masuda A, et al., <i>J Biol Chem.</i> 276(28):26107-26113 (2001); Yeaman CF 2nd, et al., <i>J Exp Med.</i> 192(8):1093-1103 (2000); Lee et al., <i>FEBS Lett</i> 485(2-3): 122-126 (2000); Nor et al., <i>J Vasc Res</i> 37(3): 209-218 (2000); and Karsan and Harlan, <i>J Atheroscler Thromb</i> 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Immune cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary immune cells that may be used according to these assays include mast cells such as the HMC</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of asthma, allergy, hypersensitivity and inflammation.</p>
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440	HTLEM16	954	Activation of Endothelial Cell p38 or JNK Signaling Pathway.	<p>human mast cell line.</p> <p>Kinase assay. JNK and p38 kinase assays for signal transduction that regulate cell proliferation, activation, or apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and apoptosis. Exemplary assays for JNK and p38 kinase activity that may be used or routinely modified to test JNK and p38 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Gupta et al., <i>Exp Cell Res</i> 247(2):495-504 (1999); Kyrakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary endothelial cells that may be used according to these assays include human umbilical vein endothelial cells (HUVEC), which are endothelial cells which line venous blood vessels, and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) endothelial cell activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) the activation of and/or inactivating endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic neuropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic</p>
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				<p>overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization.</p> <p>Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangiopericytoma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, stenosis; venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly</p>
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441	HTLV48	955	<p>Assays for measuring expression of ICAM-1 are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate ICAM-1 expression. Exemplary assays that may be used or routinely modified to measure ICAM-1 expression include assays disclosed in: Takacs P, et al, FASEB J. 15(2):279-281 (2001); and, Miyamoto K, et al., Am J Pathol, 156(5):1733-1739 (2000), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these</p>	<p>preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment /prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p>
				<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Inflammation, Vascular Disease, Atherosclerosis, Restenosis, and Stroke</p>

442	HTLFA13	956	<p>Regulation of viability and proliferation of pancreatic beta cells.</p>	<p>assays include microvascular endothelial cells (MVEC).</p> <p>Assays for the regulation of viability and proliferation of cells in vitro are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate viability and proliferation of pancreatic beta cells. For example, the Cell Titer-Glo luminescent cell viability assay measures the number of viable cells in culture based on quantitation of the ATP present which signals the presence of metabolically active cells. Exemplary assays that may be used or routinely modified to test regulation of viability and proliferation of pancreatic beta cells by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Friedrichsen BN, et al. Mol Endocrinol, 15(1):136-48 (2001); Huotari MA, et al. Endocrinology, 139(4):1494-9 (1998); Hugl SR, et al., J Biol Chem 1998 Jul 10;273(28):17771-9 (1998), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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443	HTLV73	957	<p>insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. <i>Endocrinology</i> 1992 130:167.</p> <p>TNFα FMAF. Assays for immunomodulatory proteins produced by activated macrophages, T cells, fibroblasts, smooth muscle, and other cell types that exert a wide variety of inflammatory and cytotoxic effects on a variety of cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate inflammation and cytotoxicity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines such as tumor necrosis factor alpha (TNFα), and the induction or inhibition of an inflammatory or cytotoxic response. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204(1999); Rowland et al., "T lymphocytes: a practical approach" Chapter 6:138-160 (2000); Verhasselt et al., <i>Eur J Immunol</i> 28(11):3886-3890 (1998); Dahlen et al., <i>J Immunol</i> 160(7):3583-3593 (1998); Verhasselt et al., <i>J Immunol</i> 158:2919-2925 (1997); and</p>	<p>A highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytoma, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS.</p>
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				<p>Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>Assays for measuring calcium flux are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mobilize calcium. For example, the FLPR assay may be used to measure influx of calcium. Cells normally have very low concentrations of cytosolic calcium compared to much higher extracellular calcium. Extracellular factors can cause an influx of calcium, leading to activation of calcium responsive signaling pathways and alterations in cell functions. Exemplary assays that may be used or routinely modified to measure calcium flux by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Satin LS, et al., Endocrinology, 136(10):4589-601 (1995); Mogami H, et al., Endocrinology, 136(7):2960-6 (1995); Richardson SB, et al., Biochem J 288 (Pt 3):847-51 (1992); and, Meats, JE, et al., Cell Calcium 1989 Nov-Dec;10(8):535-41.</p>	<p>granulomatous disease, inflammatory bowel disease, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
444	HTLGI89	958	Stimulation of Calcium Flux in pancreatic beta cells.	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include</p>	

				(1989), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777 Refs: Lord and Ashcroft. Biochem. J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.	weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.
445	HTLJF11	959	Protection from Endothelial Cell Apoptosis.	Caspase Apoptosis Rescue. Assays for caspase apoptosis rescue are well known in the art and may be used or routinely modified to assess the ability of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to inhibit caspase protease-mediated apoptosis. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis rescue of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Romeo et al., Cardiovasc Res 45(3): 788-794 (2000); Messmer et al., Br J Pharmacol 127(7): 1633-1640 (1999); and J Atheroscler Thromb 3(2): 75-80 (1996); the contents of	A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred

			<p>each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary endothelial cells that may be used according to these assays include bovine aortic endothelial cells (BAEC), which are an example of endothelial cells which line blood vessels and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangioepithelioma, lymphangioangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign</p>
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446	HTLF12	960	Activation of transcription through GAS response element	Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-	<p>dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, stenosis; venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment/prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred</p>
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		in immune cells (such as T-cells).	<p>known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Matikainen et al., <i>Blood</i> 93(6):1980-1991 (1999); and Henttinen et al., <i>J Immunol</i> 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary mouse T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the CTLL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>	<p>indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkins disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
447	HTLIF12	Activation of transcription through GAS response element in immune cells (such as T-cells).	<p>Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well known in the art and may be used or</p>	<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for</p>

448	HTL1F12	962	<p>as T-cells).</p> <p>Activation of transcription through GAS response element in immune cells (such as T-cells).</p>	<p>routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Matikainen et al., <i>Blood</i> 93(6):1980-1991 (1999); and Henttinen et al., <i>J Immunol</i> 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary mouse T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the CTL.L cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>	<p>example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkins disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response.</p> <p>Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma,</p>
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449	HTLF12	963	<p>polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Matikainen et al., Blood 93(6):1980-1991 (1999); and Hentunen et al., J Immunol 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary mouse T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the CTLL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>	<p>Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
			<p>Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including</p>	<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's</p>

450	HTLF12	964	<p>antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Matikainen et al., <i>Blood</i> 93(6):1980-1991 (1999); and Hentinen et al., <i>J Immunol</i> 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary mouse T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the CTLL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>	<p>disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
	Activation of transcription through GAS response element in immune cells (such as T-cells).		<p>Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of</p>	<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon,</p>

451	HTLF12	965	<p>the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Matikainen et al., <i>Blood</i> 93(6):1980-1991 (1999); and Hentinen et al., <i>J Immunol</i> 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary mouse T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the CTL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>	<p>pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity"; "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
			<p>Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT</p>	<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary</p>

452	HTNAM63	966	<p>transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Mäkitäinen et al., <i>Blood</i> 93(6):1980-1991 (1999); and Henttinen et al., <i>J Immunol</i> 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary mouse T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the CTLL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>	<p>transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Mäkitäinen et al., <i>Blood</i> 93(6):1980-1991 (1999); and Henttinen et al., <i>J Immunol</i> 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary mouse T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the CTLL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>	<p>cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>	<p>cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
			<p>Assays for the activation of transcription through the cAMP response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to increase cAMP and regulate CREB transcription factors, and modulate expression of genes involved in a</p>	<p>Assays for the activation of transcription through the cAMP response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to increase cAMP and regulate CREB transcription factors, and modulate expression of genes involved in a</p>	<p>Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response.</p>	<p>Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response.</p>

			<p>wide variety of cell functions. Exemplary assays for transcription through the cAMP response element that may be used or routinely modified to test cAMP-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malin, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Genes 15(2):105-117 (1997); and Belkowski et al., J Immunol 161(2):659-665 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>	<p>response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
453	HTNBK13	967	<p>Regulation of viability and proliferation of pancreatic beta cells.</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension,</p>

453	HTNBK13	967	Production of TNF alpha by dendritic cells	<p>active cells. Exemplary assays that may be used or routinely modified to test regulation of viability and proliferation of pancreatic beta cells by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Friedrichsen BN, et al., Mol Endocrinol, 15(1):136-48 (2001); Huotari MA, et al., Endocrinology, 139(4):1494-9 (1998); Hugl SR, et al., J Biol Chem 1998 Jul 10;273(28):17771-9 (1998), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Afari et al. Endocrinology 1992, 130:167.</p> <p>TNFα FMAAT. Assays for immunomodulatory proteins produced by activated macrophages, T cells, fibroblasts, smooth muscle, and other cell types that exert a wide variety of inflammatory and cytotoxic effects on a variety of cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of</p>	<p>stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
				<p>A highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus,</p>	

454	HTOAI50 *	968	Production of IFN γ using a T cells	<p>the invention) to mediate immunomodulation, modulate inflammation and cytotoxicity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines such as tumor necrosis factor alpha (TNFα), and the induction or inhibition of an inflammatory or cytotoxic response. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Verhasselt et al., <i>Eur J Immunol</i> 28(11):3886-3890 (1998); Dahlen et al., <i>J Immunol</i> 160(7):3585-3593 (1998); Verhasselt et al., <i>J Immunol</i> 158:2919-2925 (1997); and Nardelli et al., <i>J Leukoc Biol</i> 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>the invention) to mediate immunomodulation, modulate inflammation and cytotoxicity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines such as tumor necrosis factor alpha (TNFα), and the induction or inhibition of an inflammatory or cytotoxic response. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Verhasselt et al., <i>Eur J Immunol</i> 28(11):3886-3890 (1998); Dahlen et al., <i>J Immunol</i> 160(7):3585-3593 (1998); Verhasselt et al., <i>J Immunol</i> 158:2919-2925 (1997); and Nardelli et al., <i>J Leukoc Biol</i> 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the</p>
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			<p>cytokine. IFNγ promotes TH1 and inhibits TH2 differentiation; promotes IgG2a and inhibits IgE secretion; induces macrophage activation; and increases MHC expression. Assays for immunomodulatory proteins produced by T cells and NK cells that regulate a variety of inflammatory activities and inhibit TH2 helper cell functions are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, regulate inflammatory activities, modulate TH2 helper cell function, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as Interferon gamma (IFNγ), and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., <i>J Clin Lab Anal</i> 8(5):225-233 (1995); Billiau et al., <i>Ann NY Acad Sci</i> 856:22-32 (1998); Boehm et al., <i>Annu Rev Immunol</i> 15:749-795 (1997), and <i>Rheumatology</i> (Oxford) 38(3):214-20 (1999), the contents of each of which are herein incorporated</p>	<p>invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease"). Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiency (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional preferred indications include idiopathic pulmonary fibrosis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
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455	H10A11	969	<p>Activation of transcription through API response element in immune cells (such as T-cells).</p>	<p>by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory</p>
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455	HTOAMI11	969	Activation of transcription through cAMP response element in immune cells (such as T-cells).	<p>assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension-culture cell line with cytotoxic activity.</p> <p>Assays for the activation of transcription through the cAMP response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to increase cAMP and regulate CREB transcription factors, and modulate expression of genes involved in a wide variety of cell functions. Exemplary assays for transcription through the cAMP response element that may be used or routinely modified to test cAMP-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Genes 15(2):105-117 (1997); and Belkowski et al., J Immunol 161(2):659-665 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p> <p>Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is a suspension</p>	<p>bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.</p>
				<p>Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis,</p>	

455	HTOAM11	969	<p>Activation of transcription through GAS response element in immune cells (such as T-cells).</p>	<p>culture of IL-2 dependent cytotoxic T cells.</p> <p>Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Matikainen et al., <i>Blood</i> 93(6):1980-1991 (1999); and Henttinen et al., <i>J Immunol</i> 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary mouse T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the CTL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>	<p>meningitis, Lyme Disease, and asthma and allergy.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response.</p> <p>Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis.</p> <p>Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytoma, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and</p>
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455	HTOAM11	969	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 661:10 (1998); Cullen and Malin, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>allergy.</p> <p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity"; "Blood-Related Disorders"; and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute myelocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis,</p>
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455	HTOAM11	969	Stimulation of insulin secretion from pancreatic beta cells.	<p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., <i>Am J Physiol</i>, 277(4 Pt 2):R959-66 (1999); Li, M., et al., <i>Endocrinology</i>, 138(9):3735-40 (1997); Kim, K. H., et al., <i>FEBS Lett</i>, 377(2):237-9 (1995); and, Miraglia S et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1</p>	<p>meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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455	HTOAM11	969	<p>cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. <i>Endocrinology</i> 1992; 130:167.</p> <p>Assays for the activation of transcription through the CD28 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate IL-2 expression in T cells. Exemplary assays for transcription through the CD28 response element that may be used or routinely modified to test CD28-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); McGuire and Jacobelli, <i>J Immunol</i> 159(3):1319-1327 (1997); Parra et al., <i>J Immunol</i> 166(4):2437-2443 (2001); and Bauscher et al., <i>J Biol Chem</i> 273(5):552-560 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-2 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-2 production. Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. An additional highly preferred indication includes infection (e.g., AIDS, and/or as described below under "Infectious Disease"). Highly preferred indications include neoplastic diseases (e.g., melanoma, renal cell carcinoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, melanoma (e.g., metastatic melanoma), renal cell carcinoma (e.g., metastatic renal cell carcinoma).</p>
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455	HTOAMI1	969	Production of IFN γ using a T cells	<p>include the JURKAT cell line, which is a suspension culture of leukemia cells that produce IL-2 when stimulated.</p>	<p>leukemia, lymphoma (e.g., T cell lymphoma), and prostate, breast, lung, colon, pancreatic, esophageal, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. A highly preferred indication is infection (e.g., tuberculosis, infections associated with granulomatous disease, and osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). A highly preferred indication is AIDS. Additional highly preferred indications include suppression of immune reactions to transplanted organs and/or tissues, uveitis, psoriasis, and tropical spastic paraparesis. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as described below under "Infectious Disease"). Highly preferred indications include autoimmune disease</p>
			IFN γ plays a central role in the immune system and is considered to be a proinflammatory cytokine. IFN γ promotes TH1 and inhibits TH2 differentiation, promotes IgG2a and inhibits IgE secretion; induces macrophage activation; and increases MHC expression. Assays for immunomodulatory proteins produced by T cells and NK cells that regulate a variety of inflammatory activities and inhibit TH2 helper cell functions are well known in the		

			<p>art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, regulate inflammatory activities, modulate TH2 helper cell function, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as Interferon gamma (IFNγ), and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" al., Chapter 6:138-160 (2000); Gonzalez et al., J Clin Lab Anal 8(5):225-233 (1995); Billiau et al., Ann NY Acad Sci 856:22-32 (1998); Boelhm et al., Annu Rev Immunol 15:749-795 (1997), and Rheumatology (Oxford) 38(3):214-20 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be</p>
			<p>(e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiency (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional preferred indications include idiopathic pulmonary fibrosis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>

456	HTODH57	970	<p>Activation of transcription through API response element in immune cells (such as T-cells).</p>	<p>preactivated to enhance responsiveness to immunomodulatory factors.</p> <p>Assays for the activation of transcription through the API response element are known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate growth and other cell functions. Exemplary assays for transcription through the API response element that may be used or routinely modified to test API-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1988); Cullen and Melnik, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Rellahan et al., <i>J Biol Chem</i> 272(49):30806-30811 (1997); Chang et al., <i>Mol Cell Biol</i> 18(9):4986-4993 (1998), and Fraser et al., <i>Eur J Immunol</i> 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension-culture cell line with cytotoxic activity.</p>	<p>Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.</p>
457	HTODH83	971	<p>Activation of transcription through serum response element</p>	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may with cytotoxic activity.</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the</p>

			<p>be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); and Black et al., <i>Virus Genes</i> 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>in immune cells (such as T-cells).</p>	<p>invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
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457	HTODH83	971	Production of ICAM-1	Assays for measuring expression of ICAM-1 are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate ICAM-1 expression. Exemplary assays that may be used or routinely modified to measure ICAM-1 expression include assays disclosed in: Takacs P, et al, FASEB J, 15(2):279-281 (2001); and, Miyamoto K, et al., Am J Pathol, 156(5):1733-1739 (2000), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include microvascular endothelial cells (MVEC).	Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Inflammation, Vascular Disease, Atherosclerosis, Restenosis, and Stroke
458	HTOEVI6	972	Production of IL-6	IL-6/FMAT: IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases. Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability	A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-

459	HTOGR38	973	<p>Activation of Natural Killer Cell ERK Signaling Pathway.</p>	<p>of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:158-160 (2000); and Verhaselt et al., <i>J Immunol</i> 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neuropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating natural killer cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting natural killer cell proliferation. A highly preferred embodiment of the invention includes a method for</p>
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460	HTOH021	974	Activation of Adipocyte ERK Signaling Pathway	<p>invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Kriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Natural killer cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary natural killer cells that may be used according to these assays include the human natural killer cell lines (for example, NK-YT cells which have cytolytic and cytotoxic activity) or primary NK cells.</p>	<p>stimulating natural killer cell differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting natural killer cell differentiation. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity") and infections (e.g., as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include cancers such as, kidney, melanoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, urinary cancer, lymphoma and leukemias. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Other highly preferred indications include, pancytopenia, leukopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), arthritis, asthma, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, immune reactions to transplanted organs and tissues, endocarditis, meningitis, Lyme Disease, and allergies.</p>
				<p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte</p>

			<p>and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Furrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brustel Y, <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders").</p> <p>Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension,</p>
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460	HTOH021	974	Activation of Skeletal Muscle Cell P13 Kinase Signalling Pathway	<p>Kinase assay. Kinase assays, for example an GSK-3 kinase assay, for P13 kinase signal transduction that regulate glucose metabolism and cell survival are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including</p>	<p>sroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred embodiment of the invention includes a method for increasing muscle cell survival. An alternative highly preferred embodiment of the invention includes a method for decreasing muscle cell survival. A preferred embodiment of the invention includes a method for stimulating muscle cell proliferation. In a specific embodiment, skeletal muscle cell proliferation is</p>
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		<p>antibodies and agonists or antagonists of the invention) to promote or inhibit glucose metabolism and cell survival. Exemplary assays for P13 kinase activity that may be used or routinely modified to test P13 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Nikulina et al., <i>Diabetes</i> 49(2):263-271 (2000); and Schreyer et al., <i>Diabetes</i> 48(8):1662-1666 (1999), the contents of each of which are herein incorporated by reference in its entirety. Rat myoblast cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p> <p>Exemplary rat myoblast cells that may be used according to these assays include L6 cells. L6 is an adherent rat myoblast cell line, isolated from primary cultures of rat thigh muscle, that fuses to form multinucleated myotubes and striated fibers after culture in differentiation media.</p>	<p>stimulated. An alternative highly preferred embodiment of the invention includes a method for inhibiting muscle cell proliferation. In a specific embodiment, skeletal muscle cell proliferation is inhibited. A preferred embodiment of the invention includes a method for stimulating muscle cell differentiation. In a specific embodiment, skeletal muscle cell differentiation is stimulated. An alternative highly preferred embodiment of the invention includes a method for inhibiting muscle cell differentiation. In a specific embodiment, skeletal muscle cell differentiation is inhibited. Highly preferred indications include disorders of the musculoskeletal system. Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), endocrine disorders (e.g., as described below under "Endocrine Disorders"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), and infection (e.g., as described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia,</p>
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461	HTOHQ05	975	Production of MIP1alpha	<p>MIP-1alpha FMAT: Assays for immunomodulatory proteins produced by activated dendritic cells that upregulate monocyte/macrophage and T cell chemotaxis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate</p>	<p>endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infections (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal system including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include: myopathy, atrophy, congestive heart failure, cachexia, myxomas, fibromas, congenital cardiovascular abnormalities, heart disease, cardiac arrest, heart valve disease, and vascular disease. Highly preferred indications include neoplasms and cancer, such as, rhabdomyoma, rhabdosarcoma, stomach, esophageal, prostate, and urinary cancer. Preferred indications also include breast, lung, colon, pancreatic, brain, and liver cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating MIP1a production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MIP1a production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications</p>
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			chemotaxis, and modulate T cell differentiation. Exemplary assays that test for immunomodulatory proteins evaluate the production of chemokines, such as macrophage inflammatory protein 1 alpha (MIP-1a), and the activation of monocytes/macrophages and T cells. Such assays that may be used or routinely modified to test immunomodulatory and chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Erenin, J R Coll Surg Edn 45(1):9-19 (2001); Drakes et al., Trans Immunol 8(1):17-29 (2000); Verhasselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.	include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.
462	HT01L95	976	Upregulation of CD71 and activation of T cells	A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. Preferred indications include blood disorders (e.g., as

				<p>proliferating. Assays for immunomodulatory proteins expressed on activated T cells, B cells, and most proliferating cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD71, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Afetra et al., <i>Ann Rheum Dis</i> 52(6):457-460 (1993), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Diseases"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include infection. Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
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463	HT01L95	977	Upregulation of CD71 and activation of T cells	<p>CD71 FMAT, CD71 is the transferrin receptor. Transferrin is a major iron carrying protein that is essential for cell proliferation. CD71 is expressed predominantly on cells that are actively proliferating. Assays for immunomodulatory proteins expressed on activated T cells, B cells, and most proliferating cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD71, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Afetra et al., Ann Rheum Dis 32(6):457-460 (1993), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include infection. Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
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464	HTPDU17	978	Production of IL-4	<p>express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p> <p>IL-4 FMAAT. Assays for immunomodulatory proteins secreted by TH2 cells that stimulate B cells, T cells, macrophages and mast cells and promote polarization of CD4+ cells into TH2 cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, stimulate immune cells, modulate immune cell polarization, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-4, and the stimulation of immune cells, such as B cells, T cells, macrophages and mast cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "T lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., J Clin Lab Anal 8(5):277-283 (1994); Yssel et al., Res Immunol 144(8):610-616 (1993); Bagley et al., Nat Immunol 1(3):257-261 (2000); and van der Graaff et al., Rheumatology (Oxford)</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-4 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-4 production. A highly preferred indication includes asthma. A highly preferred indication includes allergy. A highly preferred indication includes rhinitis. Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of</p>
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465	HTSF132	979	Activation of transcription through serum response element in immune cells (such as T-cells).	38(3):214-220 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.	immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").
			Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these	A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal,	

465	HTSF32	979	<p>Activation of Skeletal Muscle Cell P13 Kinase Signalling Pathway</p>	<p>assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
			<p>Kinase assay. Kinase assays, for example an GSK-3 kinase assay, for P13 kinase signal transduction that regulate glucose metabolism and cell survival are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit glucose metabolism and cell survival. Exemplary assays for P13 kinase activity that may be used or routinely modified to test P13 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Nikoulina et al., <i>Diabetes</i> 49(2):263-271 (2000); and Schreyer et al., <i>Diabetes</i> 48(8):1662-1666 (1999), the contents of each of which are herein</p>	<p>A highly preferred embodiment of the invention includes a method for increasing muscle cell survival. An alternative highly preferred embodiment of the invention includes a method for decreasing muscle cell survival. A preferred embodiment of the invention includes a method for stimulating muscle cell proliferation. In a specific embodiment, skeletal muscle cell proliferation is stimulated. An alternative highly preferred embodiment of the invention includes a method for inhibiting muscle cell proliferation. In a specific embodiment, skeletal muscle cell proliferation is inhibited. A preferred embodiment of the invention includes a method for stimulating muscle cell differentiation. In a specific embodiment, skeletal muscle cell differentiation is stimulated. An alternative highly preferred embodiment of the invention includes a method for inhibiting muscle cell differentiation. In a specific embodiment, skeletal muscle cell differentiation is inhibited. Highly preferred indications include disorders of the musculoskeletal system. Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), endocrine disorders (e.g.,</p>	

				<p>incorporated by reference in its entirety.</p> <p>Rat myoblast cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p> <p>Exemplary rat myoblast cells that may be used according to these assays include L6 cells. L6 is an adherent rat myoblast cell line, isolated from primary cultures of rat thigh muscle, that fuses to form multinucleated myotubes and striated fibers after culture in differentiation media.</p>	<p>as described below under "Endocrine Disorders", neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A. An highly preferred indication is diabetes mellitus.</p> <p>Additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infections (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture).</p> <p>An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain.</p> <p>Additional highly preferred indications are complications associated with insulin resistance.</p> <p>Additional highly preferred indications are disorders of the musculoskeletal system</p>
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466	HTTCB60	980	Stimulation of insulin secretion from pancreatic beta cells.	Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., <i>Am J Physiol</i> , 277(4 Pt 2):R959-66 (1999); Li, M., et al., <i>Endocrinology</i> , 138(9):3735-40 (1997); Kim, K.H., et al., <i>FEBS Lett.</i> 377(2):237-9 (1995); and, Miraglia S et al., <i>Journal of</i>	including myopathies, muscular dystrophy, and/or as described herein. Additional highly preferred indications include: myopathy, atrophy, congestive heart failure, cachexia, myxomas, fibromas, congenital cardiovascular abnormalities, heart disease, cardiac arrest, heart valve disease, and vascular disease. Highly preferred indications include neoplasms and cancer, such as, rhabdomyoma, rhabdosarcoma, stomach, esophageal, prostate, and urinary cancer. Preferred indications also include breast, lung, colon, pancreatic, brain, and liver cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, hyperplasia, metaplasia, and/or dysplasia.
				A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with	

				<p>obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
				<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, neuropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious</p>

468	HTTEZ02	982	Endothelial Cell Apoptosis	<p>136(10):4589-601 (1995); Mogami H, et al., Endocrinology, 136(7):2960-6 (1995); Richardson SR, et al., Biochem J. 288 (Pt 3):847-51 (1992); and, Meats, JE, et al., Cell Calcium 1989 Nov-Dec;10(8):535-41 (1989), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777 Refs: Lord and Ashcroft. Biochem. J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.</p>	<p>Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
			<p>Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote caspase protease-mediated apoptosis. Induction of apoptosis in endothelial cells supporting the vasculature of tumors is associated with tumor regression due to loss of tumor blood supply. Exemplary assays for caspase apoptosis that may be used or routinely</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing)</p>	

			<p>modified to test caspase apoptosis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Lee et al., FEBS Lett 485(2-3): 122-126 (2000); Nor et al., J Vasc Res 37(3): 209-218 (2000); and Kansan and Harlan, J Atheroscler Thromb 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary endothelial cells that may be used according to these assays include bovine aortic endothelial cells (bAEC), which are an example of endothelial cells which line blood vessels and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangiopericytoma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary</p>
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469	HTWEH94	983	Stimulation of insulin secretion from	Assays for measuring secretion of insulin are well-known in the art and may be used	<p>cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, stenosis, venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment/prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease) and pain management.</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication</p>
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			<p>or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., <i>Am J Physiol</i>, 277(4 Pt 2):R959-66 (1999); Li, M., et al., <i>Endocrinology</i>, 138(9):3735-40 (1997); Kim, K.H., et al., <i>FEBS Lett</i>, 377(2):237-9 (1995); and, Miraglia S. et al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible</p>	<p>associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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470	HTXBD09	984	<p>Activation of transcription through NFKB response element in epithelial cells (such as HELA cells).</p>	<p>insulin secretion. References: Asfari et al. <i>Endocrinology</i> 1992; 130:167.</p> <p>Assays for the activation of transcription through the NFKB response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFKB transcription factors and modulate expression of epithelial genes.</p> <p>Exemplary assays for transcription through the NFKB response element that may be used or routinely modified to test NFKB-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Kaltschmidt B. et al., <i>Oncogene</i>, 18(21):3213-3225 (1999); Beetz A. et al., <i>Int J Radiat Biol</i>, 76(11):1443-1453 (2000); Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Valle Blazquez et al., <i>Immunology</i> 90(3):455-460 (1997); Aramburu et al., <i>J Exp Med</i> 82(3):801-810 (1995); and Fraser et al., 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. Epithelial cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary epithelial cells that may be used according to these assays include the HELA cell line.</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Cancer, Wound Healing, and Inflammation. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as: for example, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as: for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include include inflammation and inflammatory disorders.</p>
471	HTXDB22	985	<p>Activation of</p>	<p>Assays for the activation of transcription</p>	<p>Highly preferred indications include neoplastic diseases</p>

		transcription through GAS response element in immune cells (such as T-cells).	through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Matikainen et al., <i>Blood</i> 93(6):1980-1991 (1999); and Hentinen et al., <i>J Immunol</i> 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the SUPT cell line, that may be used according to these assays are publicly available (e.g., through the ATCC).	(e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysplastic disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.
472	HTXDC38	986	Assays for the activation of transcription through the Gamma Interferon Activation	Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below

			<p>GAS response element in immune cells (such as T-cells).</p>	<p>Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Mankinen et al., <i>Blood</i> 93(6):1980-1991 (1999); and Hentinen et al., <i>J Immunol</i> 155(10):4582-4587 (1995) the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the SUPT cell line, that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below) and/or "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders", and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
473	HTXDC77	987	<p>Activation of transcription through serum response element</p>	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of</p>

			<p>be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types.</p> <p>Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Benson et al., <i>J Immunol</i> 153(9):3862-3873 (1994); and Black et al., <i>Virus Genes</i> 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis.</p> <p>An additional highly preferred indication is sepsis.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
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474	HTXDD61	988	<p>Upregulation of CD69 and activation of T cells</p>	<p>CD69 FMAT. CD69 is an activation marker that is expressed on activated T cells, B cells, and NK cells. CD69 is not expressed on resting T cells, B cells, or NK cells. CD69 has been found to be associated with inflammation. Assays for immunomodulatory proteins expressed in T cells, B cells, and leukocytes are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD69, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204 (1999); Rowland et al., "T lymphocytes: a practical approach", Chapter 6:138-160 (2000); Ferenczi et al., <i>J Autoimmun</i> 14(1):63-78 (2001); Werfel et al., <i>Allergy</i> 52(4):465-469 (1997); Taylor-Fishwick and Siegel, <i>Eur J Immunol</i> 25(12):3215-3221 (1995); and Afreia et al., <i>Ann Rheum Dis</i> 52(6):457-460 (1993), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated</p>	<p>A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for activating B cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting activation of and/or inactivation NK cells. Highly preferred indications include inflammation and inflammatory disorders (e.g., as described below under "Immune Activity"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response and alternatively suppressing a T cell-mediated immune response, and boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. An additional highly preferred indication includes infection (e.g., as described below under "Infectious Disease"). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis,</p>
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475	HTXD092	989	Proliferation, differentiation, and/or cytokine production in immune cells (such as T-cells).	using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.	meningitis, Lyme Disease, inflammation and inflammatory disorders, asthma, and allergies. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.
			Kinase assays, for example kinase assays for members of the MAP kinase family (including p38, JAK, and ERK) are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, differentiation, and/or cytokine production in immune cells such as T-cells. Exemplary assays for MAP kinase family members that may be used or routinely modified to test polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Rincon M., Curr Opin Immunol; 13(3):339-345 (2001); Wang LH, et al., J Immunol, 162(7):3897-3904 (1999); Sakamoto H, et al., J Biol Chem, 275(46):35857-35862 (2000), the contents of each of which are herein incorporated by reference in its entirety. Exemplary immune cells (for example, T-cells) that may be used according to these assays include the mouse CTL cell line.		Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of inflammation, infection, allergy, asthma, autoimmunity, and cancer.

475	HTXDG92	989	Activation of transcription through GAS response element in immune cells (such as T-cells).	Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Culen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Matikainen et al., Blood 93(6):1980-1991 (1999); and Henthorn et al., J Immunol 155(10):4382-4387 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the SUPT cell line, that may be used according to these assays are publicly available (e.g., through the ATCC).	Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic leukemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.
476	HTXET11	990	Proliferation.	Kinase assays, for example kinase assays	Preferred embodiments of the invention include using

477	HTXFA72	991	<p>differentiation, and/or cytokine production in immune cells (such as T-cells).</p>	<p>for members of the MAP kinase family (including p38, JAK, and ERK) are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, differentiation, and/or cytokine production in immune cells such as T-cells. Exemplary assays for MAP kinase family members that may be used or routinely modified to test polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Rincon M., <i>Curr Opin Immunol</i>; 13(3):339-345 (2001); Wang LH, et al., <i>J Immunol</i>, 162(7):3897-3904 (1999); Sakamoto H, et al., <i>J Biol Chem</i>, 275(46):35857-35862 (2000), the contents of each of which are herein incorporated by reference in its entirety. Exemplary immune cells (for example, T-cells) that may be used according to these assays include the mouse C11L cell line.</p>	<p>polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of inflammation, infection, allergy, asthma, autoimmunity, and cancer.</p>
			<p>Stimulation of Calcium Flux in pancreatic beta cells.</p>	<p>Assays for measuring calcium flux are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mobilize calcium. For example, the FLPR assay may be used to measure influx of calcium. Cells normally have very low concentrations of cytosolic calcium compared to much higher extracellular calcium. Extracellular factors can cause an influx of calcium, leading to</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypersmolar coma, cardiovascular disease (e.g., heart disease,</p>

			<p>activation of calcium responsive signaling pathways and alterations in cell functions. Exemplary assays that may be used or routinely modified to measure calcium flux by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Satin LS, et al., Endocrinology, 136(10):4589-601 (1995); Mogami H, et al., Endocrinology, 136(7):2960-6 (1995); Richardson SB, et al., Biochem J, 288 (Pt 3):847-51 (1992); and, Meats, JE, et al., Cell Calcium 1989 Nov-Dec;10(8):535-41 (1989), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777 Refs: Lord and Ashcroft. Biochem. J 219: 547-551; Senterre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.</p> <p>Assays for the activation of transcription through the Nuclear Factor of Activated T cells (NFAT) response element are well-known in the art and may be used or routinely modified to assess the ability of</p>	<p>atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
478	HTXJY08	992	<p>Activation of transcription through NFAT response element in immune cells (such as natural</p>	<p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic</p>

478	HTXJY08	992	<p>killer cells).</p> <p>polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFAT transcription factors and modulate expression of genes involved in immunomodulatory functions. Exemplary assays for transcription through the NFAT response element that may be used or routinely modified to test NFAT-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malin, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Aramburu et al., <i>J Exp Med</i> 182(3):801-810 (1995); De Boer et al., <i>Int J Biochem Cell Biol</i> 31(10):1221-1236 (1999); Fraser et al., <i>Eur J Immunol</i> 29(3):838-844 (1999); and Yessen et al., <i>J Biol Chem</i> 268(19):14285-14293 (1993), the contents of each of which are herein incorporated by reference in its entirety. NK cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human NK cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p> <p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention</p>	<p>lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. An additional highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
478	HTXJY08	992	<p>Activation of transcription through serum response element in immune cells (such as natural killer cells).</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications</p>

479	HTXKF95	993	<p>(including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types.</p> <p>Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malin, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Benson et al., <i>J Immunol</i> 153(9):3862-3873 (1994); and Black et al., <i>Virus Genes</i> 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>including blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
	Activation of Skeletal Muscle Cell ERK		<p>Kinase assay. Kinase assays, for example Etk-1 kinase assays, for ERK signal</p>	Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine

			<p>transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Le Marchand-Brustel Y, <i>Exp Clin Endocrinol Diabetes</i> 107(2):126-132 (1999); Kiriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Rat myoblast cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat myoblast cells that may be used according to these assays include L6 cells. L6 is an adherent rat myoblast cell line, isolated from primary cultures of rat thigh muscle, that fuses to form multinucleated myotubes and striated fibers after culture in differentiation media.</p>	<p>Disorders and disorders of the musculoskeletal system. Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease"). An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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480	HTXMXZ07	994	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malin, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-</p>	<p>Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein.</p> <p>Additional highly preferred indications include: myopathy, atrophy, congestive heart failure, cachexia, myxomas, fibromas, congenital cardiovascular abnormalities, heart disease, cardiac arrest, heart valve disease, and vascular disease.</p> <p>Highly preferred indications include neoplasms and cancer, such as, rhabdomyoma, rhabdomyosarcoma, stomach, esophageal, prostate, and urinary cancer. Highly preferred indications also include breast, lung, colon, pancreatic, brain, and liver cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, hyperplasia, metaplasia, and/or dysplasia.</p> <p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below) under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders". Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, glioma</p>
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3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the JURKAT cell line, which is a suspension culture of leukemia cells that produce IL-2 when stimulated.					<p>(e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A highly preferred embodiment of the invention includes a method for stimulating the production of GM-CSF. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of GM-CSF. Highly preferred indications include inflammation and inflammatory disorders. An additional highly preferred indication is infection (e.g., as described below under "Infectious Disease". Highly preferred indications include blood disorders (e.g., neutropenia and the prevention of neutropenia (e.g., in HIV infected patients), and/or as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications also include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include asthma. Highly preferred indications include neoplastic diseases (e.g., leukemia (e.g., acute</p>
481	HUFCL31	995	Production of GM-CSF	<p>GM-CSF FMAT: GM-CSF is expressed by activated T cells, macrophages, endothelial cells, and fibroblasts. GM-CSF regulates differentiation and proliferation of granulocytes- macrophage progenitors and enhances antimicrobial activity in neutrophils, monocytes and macrophage. Additionally, GM-CSF plays an important role in the differentiation of dendritic cells and monocytes, and increases antigen presentation. GM-CSF is considered to be a proinflammatory cytokine. Assays for immunomodulatory proteins that promote the production of GM-CSF are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to</p>	

482	HUKBT67	996	<p>mediate immunomodulation and modulate the growth and differentiation of leukocytes. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as GM-CSF, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach", Chapter 6:138-160 (2000); and Ye et al., J Leukoc Biol (58(2):225-233, the contents of each of which are herein incorporated by reference in its entirety. Natural killer cells that may be used according to these assays are publicly available (e.g., through the ATCC) or may be isolated using techniques disclosed herein or otherwise known in the art. Natural killer (NK) cells are large granular lymphocytes that have cytotoxic activity but do not bind antigen. NK cells show antibody-independent killing of tumor cells and also recognize antibody bound on target cells, via NK Fc receptors, leading to cell-mediated cytotoxicity.</p>	<p>lymphoblastic leukemia, and acute myelogenous leukemia), lymphoma (e.g., non-Hodgkin's lymphoma and Hodgkin's disease), and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications include suppression of immune reactions to transplanted organs and tissues (e.g., bone marrow transplant); accelerating myeloid recovery, and mobilizing hematopoietic progenitor cells. Preferred indications include boosting a T cell-mediated immune response, and alternatively, suppressing a T cell-mediated immune response. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neurophilia, psoriasis, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and allergy.</p>
			<p>Kinase assay. JNK and p38 kinase assays for signal transduction that regulate cell proliferation, activation, or apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for</p>

			<p>proliferation, activation, and apoptosis. Exemplary assays for JNK and p38 kinase activity that may be used or routinely modified to test JNK and p38 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9): 1101-1110 (1998); Gupta et al., <i>Exp Cell Res</i> 247(2): 495-504 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chiang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary endothelial cells that may be used according to these assays include human umbilical vein endothelial cells (HUVEC), which are endothelial cells which line venous blood vessels, and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for embodiment of the invention includes a method for stimulating (e.g., increasing) endothelial cell activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) the activation of and/or inactivating endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis</p>
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					<p>and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glioma tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangiopericytoma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, stenosis; venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment/prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune</p>
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483	HUKDF20	997	<p>Regulation of transcription via DMEF1 response element in adipocytes and pre-adipocytes</p>	<p>Assays for the regulation of transcription through the DMEF1 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to activate the DMEF1 response element in a reporter construct (such as that containing the GLUT4 promoter) and to regulate insulin production. The DMEF1 response element is present in the GLUT4 promoter and binds to ME2 transcription factor and another transcription factor that is required for insulin regulation of Glut4 expression in skeletal muscle. GLUT4 is the primary insulin-responsive glucose transporter in fat and muscle tissue. Exemplary assays that may be used or routinely modified to test for DMEF1 response element activity (in adipocytes and pre-adipocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Thai, M.V., et al., J Biol Chem, 273(23):14285-92 (1998); Mora, S., et al., J Biol Chem, 275(21):16323-8 (2000); Liu, M.L., et al., J Biol Chem, 269(45):28514-</p>	<p>Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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483	HUKDF20	997	<p>Activation of transcription through AP1 response element in immune cells (such as T-cells).</p>	<p>21 (1994); "Identification of a 30-base pair regulatory element and novel DNA binding protein that regulates the human GLUT4 promoter in transgenic mice", J Biol Chem. 2000 Aug 4;275(31):23666-73; Berger, et al., Gene 66:1-10 (1988); and, Cullen, B., et al., Methods in Enzymol. 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety. Adipocytes and pre-adipocytes that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include the mouse 3T3-L1 cell line which is an adherent mouse preadipocyte cell line. Mouse 3T3-L1 cells are a continuous substrain of 3T3 fibroblasts developed through clonal isolation. These cells undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation culture conditions.</p>	<p>Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under</p>
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483	HUKDF20	997	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>assays disclosed in Berger et al., Gene 66:1-10 (1988); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Rellahan et al., J Biol Chem 272(49):30806-30811 (1997); Chang et al., Mol Cell Biol 18(9):4986-4993 (1998); and Fraser et al., Eur J Immunol 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension-culture cell line with cytotoxic activity.</p>	<p>assays disclosed in Berger et al., Gene 66:1-10 (1988); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Rellahan et al., J Biol Chem 272(49):30806-30811 (1997); Chang et al., Mol Cell Biol 18(9):4986-4993 (1998); and Fraser et al., Eur J Immunol 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension-culture cell line with cytotoxic activity.</p>	<p>"Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.</p>
			<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below</p>		

483	HUKDF20	997	Production of ICAM-1	<p>\$5.6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
				<p>Assays for measuring expression of ICAM-1 are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate ICAM-1 expression. Exemplary assays that may be used or routinely modified to measure ICAM-1 expression include assays disclosed in: Takacs P, et al, FASEB J, 15(2):279-281 (2001); and, Miyamoto K, et al., Am J Pathol, 156(5):1733-1739 (2000), the contents of each of which are herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Inflammation, Vascular Disease, Atherosclerosis, Restenosis, and Stroke</p>

483	HUKDF20	997	<p>Activation of transcription through serum response element in immune cells (such as natural killer cells).</p>	<p>available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include microvascular endothelial cells (MVEC).</p> <p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types.</p> <p>Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Benson et al., <i>J Immunol</i> 153(9):3862-3873 (1994); and Black et al., <i>Virus Genes</i> 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous</p>
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484	HUKDY82	998	<p>Activation of transcription through GAS response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Matikainen et al., <i>Blood</i> 93(6):1980-1991 (1999); and Henttinen et al., <i>J Immunol</i> 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the MOL74 cell line, that may be used according to these assays are publicly</p>	<p>disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response.</p> <p>Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL),</p>
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485	HUSCJ14	999	Regulation of transcription through the FAS promoter element in hepatocytes	<p>Assays for the regulation of transcription through the FAS promoter element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to activate the FAS promoter element in a reporter construct and to regulate transcription of FAS, a key enzyme for lipogenesis. FAS promoter is regulated by many transcription factors including SREBP. Insulin increases FAS gene transcription in livers of diabetic mice. This stimulation of transcription is also somewhat glucose dependent.</p> <p>Exemplary assays that may be used or routinely modified to test for FAS promoter element activity (in hepatocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Xiong, S., et al., <i>Proc Natl Acad Sci U.S.A.</i>, 97(8):3948-53 (2000); Roder, K., et al., <i>Eur J Biochem</i>, 260(3):743-51 (1999); Oskouian B., et al., <i>Biochem J</i>, 317 (Pt 1):257-65 (1996); Berger, et al., <i>Gene</i> 66:1-10 (1988); and Cullen, B., et al., <i>Methods in Enzymol</i>, 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety.</p>	<p>available (e.g., through the ATCC).</p>	<p>plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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485	HUSC14	999	Upregulation of CD71 and activation of T cells	<p>Hepatocytes that may be used according to these assays, such as H4IIE cells, are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary hepatocytes that may be used according to these assays include rat liver hepatoma cell line(s) inducible with glucocorticoids, insulin, or cAMP derivatives.</p> <p>CD71 PMAT. CD71 is the transferrin receptor. Transferrin is a major iron carrying protein that is essential for cell proliferation. CD71 is expressed predominantly on cells that are actively proliferating. Assays for immunomodulatory proteins expressed on activated T cells, B cells, and most proliferating cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD71, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraldis et al., J. Biomolecular Screening 4:193-204 (1999); Rowland et al., Lymphocytes: a practical approach, Chapter 6: 138-160</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Diseases"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include infection. Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's</p>
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				<p>(2000); and Aletta et al., Ann Rheum Dis 52(6):457-460 (1993), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
486	HUSGL67	1000	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henhorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors,</p>

			cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.	and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").
487	HUSGU40	1001	Activation of transcription through serum response element in immune cells (such as T-cells).	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al.,</p>

488	HUSIR18	1002	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm,</p>	<p>Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p>
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488	HUSIR18	1002	<p>Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, and stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic leukemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
			<p>IL-10 PMAT. Assays for immunomodulatory proteins produced by activated T cells, B cells, and monocytes that exhibit anti-inflammatory activity and downregulate monocyte/macrophage function and expression of cytokines are well known in the art and may be used or routinely modified to assess the ability of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, regulate inflammatory activities, and modulate immune cell function and cytokine production.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating the production of IL-10. An alternative preferred embodiment of the invention includes a method for inhibiting the production of IL-10. Highly preferred indications include inflammation and inflammatory disorders (e.g., inflammatory bowel disease). An additional highly preferred indication includes inflammatory bowel disease. Additional highly preferred indications include blood disorders (e.g., as described below under "Immune Activity") (e.g., autoimmune disorders), "Blood-Related Disorders", and/or "Cardiovascular Disorders". Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as</p>

489	HUVD/48	1003	<p>Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-10, and the downmodulation of immune responses. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Koning et al., Cytokine 9(6):427-436 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, Crohn's disease, arthritis, AIDS, granulomatous disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy. An additional preferred indication is infection (e.g., as described below under "Infectious Disease").</p>
			<p>Assays for the regulation of viability and proliferation of cells in vitro are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate viability and proliferation of pancreatic beta cells. For example, the Cell Titer-Glo luminescent</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or</p>

490	HWAA112	1004	<p>cell viability assay measures the number of viable cells in culture based on quantitation of the ATP present which signals the presence of metabolically active cells. Exemplary assays that may be used or routinely modified to test regulation of viability and proliferation of pancreatic beta cells by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Friedrichsen BN, et al. Mol Endocrinol, 15(1):136-48 (2001); Huotari MA, et al., Endocrinology, 139(4):1494-9 (1998); Hugl SR, et al., J Biol Chem 1998 Jul 10;273(28):17771-9 (1998), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. Endocrinology 1992 130:167.</p> <p>Upregulation of CD71 and activation of T cells</p>	<p>blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p> <p>A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-</p>
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491	HWBQ70	1005	Production of IL-6	<p>immunomodulatory proteins expressed on activated T cells, B cells, and most proliferating cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate the activation of T cells, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the upregulation of cell surface markers, such as CD71, and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include, for example, the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Aferra et al., Ann Rheum Dis 32(6):457-460 (1993), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include infection. Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>	<p>A highly preferred embodiment of the invention</p>

			<p>and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases. Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhasselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by</p>	<p>includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia,</p>
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492	HWBCN36	1006	Production of ICAM-1	<p>reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>Assays for measuring expression of ICAM-1 are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate ICAM-1 expression. Exemplary assays that may be used or routinely modified to measure ICAM-1 expression include assays disclosed in: Takacs P, et al, FASEB J, 15(2):279-281 (2001); and, Miyamoto K, et al., Am J Pathol, 156(5):1733-1739 (2000), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include microvascular endothelial cells (MVEC).</p>	hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under 'Infectious Disease').
493	HWBDJ08	1007	Production of IL-6	<p>IL-6 FMA1. IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Inflammation, Vascular Disease, Atherosclerosis, Restenosis, and Stroke</p> <p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood</p>

			<p>disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases. Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhasselt et al., <i>J Immunol</i> 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be isolated according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture.</p>	<p>disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases. Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., <i>J Biomolecular Screening</i> 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhasselt et al., <i>J Immunol</i> 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be isolated according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture.</p>	<p>disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response. Highly preferred B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
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493	HWBDJ08	1007	<p>which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>Assays for the activation of transcription through the Nuclear Factor of Activated T cells (NFAT) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFAT transcription factors and modulate expression of genes involved in immunomodulatory functions. Exemplary assays for transcription through the NFAT response element that may be used or routinely modified to test NFAT-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1998); Cullen and Malm, <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Serfling et al., <i>Biochim Biophys Acta</i> 1498(1):1-18 (2000); De Boer et al., <i>Int J Biochem Cell Biol</i> 31(10):1221-1236 (1999); Fraser et al., <i>Eur J Immunol</i> 29(3):838-844 (1999); and Yessen et al., <i>J Biol Chem</i> 268(19):14285-14293 (1993), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays</p>	<p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response.</p> <p>Additional highly preferred indications include inflammation and inflammatory disorders. An additional highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neurophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
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494	HWBFX16	1008	<p>Activation of transcription through cAMP response element in immune cells (such as T-cells).</p>	<p>include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.</p> <p>Assays for the activation of transcription through the cAMP response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to increase cAMP, regulate CREB transcription factors, and modulate expression of genes involved in a wide variety of cell functions. Exemplary assays for transcription through the cAMP response element that may be used or routinely modified to test cAMP-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malin, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Genes 15(2):105-117 (1997); and Belkowski et al., J Immunol 161(2):659-665 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the HT2 cell line, which is a suspension culture of IL-2 dependent T cells that also respond to IL-4.</p>	<p>Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
495	HWDAC26	1009	<p>Activation of</p>	<p>Kinase assay. JNK kinase assays for</p>	<p>A highly preferred embodiment of the invention includes</p>

		<p>Endothelial Cell JNK Signaling Pathway.</p>	<p>Signal transduction that regulate cell proliferation, activation, or apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and apoptosis. Exemplary assays for JNK kinase activity that may be used or routinely modified to test JNK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., <i>Biol Chem</i> 379(8-9):1101-1110 (1998); Gupta et al., <i>Exp Cell Res</i> 247(2): 495-504 (1999); Kyriakis JM, <i>Biochem Soc Symp</i> 64:29-48 (1999); Chang and Karin, <i>Nature</i> 410(6824):37-40 (2001); and Cobb MH, <i>Prog Biophys Mol Biol</i> 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary endothelial cells that may be used according to these assays include human umbilical vein endothelial cells (HUVEC), which are endothelial cells which line venous blood vessels, and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders"). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect</p>
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					<p>vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangiopericytoma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, stenosis, venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment</p>
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496	HWDA096	1010	Activation of transcription through API response element in immune cells (such as T-cells).	Assays for the activation of transcription through the API response element are known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate growth and other cell functions. Exemplary assays for transcription through the API response element that may be used or routinely modified to test API-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., <i>Gene</i> 66:1-10 (1988); Cullen et al., <i>Methods in Enzymol</i> 216:362-368 (1992); Henthorn et al., <i>Proc Natl Acad Sci USA</i> 85:6342-6346 (1988); Rellaiian et al., <i>J Biol Chem</i> 272(49):30806-30811 (1997); Chang et al., <i>Mol Cell Biol</i> 18(9):4986-4993 (1998); and Fraser et al., <i>Eur J Immunol</i> 29(3):838-844 (1999), the	<p>/prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p> <p>Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease").</p> <p>Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below) and multiple sclerosis and/or as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia,</p>
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497	HWDAJ01	1011	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>contents of each of which are herein incorporated by reference in its entirety. Mouse T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the HT2 cell line, which is an IL-2 dependent suspension culture cell line that also responds to IL-4.</p> <p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-</p>	<p>thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.</p>
				<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred</p>	

498	HWIPB78	1012	<p>Activation of transcription through NFKB response element in immune cells (such as natural killer cells).</p>	<p>Assays for the activation of transcription through the NFKB response element are well-known in the art and may be used routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFKB transcription factors and modulate expression of immunomodulatory genes. Exemplary assays for transcription through the NFKB response element that may be used or routinely modified to test NFKB response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Valle Blazquez et al., Immunology 90(3):455-460 (1997); Aranburu et al., J Exp Med 82(3):801-810 (1995); and Fraser et al., 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its</p>	<p>2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>	<p>Highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), and immunodeficiencies (e.g., as described below). An additional highly preferred indication is infection (e.g., AIDS, and/or an infectious disease as described below under "Infectious Disease").</p> <p>Highly preferred indications include neoplastic diseases (e.g., melanoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, melanoma, renal cell carcinoma, leukemia, lymphoma, and prostate, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS,</p>
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499	HYABC84	1013	<p>entirety. NK cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary NK cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p> <p>Assays for measuring calcium flux or well-known in the art and may be used routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mobilize calcium. For example, the FLPR assay may be used to measure influx of calcium. Cells normally have very low concentrations of cytosolic calcium compared to much higher extracellular calcium. Extracellular factors can cause an influx of calcium, leading to activation of calcium responsive signaling pathways and alterations in cell functions. Exemplary assays that may be used or routinely modified to measure calcium flux by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Satin LS, et al., <i>Endocrinology</i>, 136(10):4589-601 (1995); Mogami H, et al., <i>Endocrinology</i>, 136(7):2960-6 (1995); Richardson SB, et al., <i>Biochem J</i>, 288 (Pt 3):847-51 (1992); and, Meats, JE, et al., <i>Cell Calcium</i> 1989 Nov-Dec;10(8):535-41 (1989), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly</p>	<p>granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, suppression of immune reactions to transplanted organs, asthma and allergy.</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), capal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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500	HYABC84	1014	Stimulation of Calcium Flux in pancreatic beta cells.	<p>available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HITT15 Cells. HITT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777</p> <p>Refs: Lord and Ashcroft. Biochem. J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.</p> <p>Assays for measuring calcium flux are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mobilize calcium. For example, the FLPR assay may be used to measure influx of calcium. Cells normally have very low concentrations of cytosolic calcium compared to much higher extracellular calcium. Extracellular factors can cause an influx of calcium, leading to activation of calcium responsive signaling pathways and alterations in cell functions. Exemplary assays that may be used or routinely modified to measure calcium flux by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Saito LS, et al., Endocrinology, 136(10):4589-601 (1995); Mogami H, et al., Endocrinology, 136(7):2960-6 (1995);</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic neuropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's</p>
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			<p>Richardson SB, et al. Biochem J. 288 (Pt 3):847-51 (1992); and, Meats JE, et al., Cell Calcium 1989 Nov-Dec;10(8):535-41 (1989), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATCC# CRL-1777</p> <p>Refs: Lord and Ashcroft. Biochem. J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.</p>	<p>contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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TABLE 2

Clone ID	Contig ID:	SEQ ID NO:X	Analysis Method	PFam/NR Description	PFam/NR Accession Number	Score/Percent Identity	NT From	NT To
H6BSF56	762968	11	HMMER 2.1.1 blastx.2	PFAM: Zinc-binding dehydrogenases CGI-63 PROTEIN.	PF00107 sp Q9Y373 Q9Y373	35.6 94% 72% 44%	176 53 48 25	415 427 80 78
H6EDM64	841331	12	blastx.2	ANG2.	sp Q9UID3 Q9UID3	99% 100%	922 107 2235	2451 922 2459 1038 310
H6EEC72	889401	13	blastx.2	hypothetical protein DKFZp34L061.1 - human	pir I43456 I43456	51% 70% 65%	1459 1448 1484	365 807 927 96
HACBS22	847113	16	blastx.2	adenylate cyclase (EC 4.6.1.1) type III - rat	pir A39833 A39833	93% 99% 31%	416 6 2078	2446 416 2299
HADDE71	839187	17	blastx.2	(AF002460) gene_id:FID9.26-unknown protein [Arabidopsis thaliana]	dbj BAA97098.1	25% 23% 91% 80% 90%	1445 1111 499 480 506	1987 1111 666 665 667 666 666 666 666 666 666 666 666

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QUESTIONS

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HAGFS57	847120	24	blastx.2	X-LIKE 1 PROTEIN.	sp Q9Y485 Q9Y485	58%	9	872
HAGHN57	773286	25	blastx.2	MITOCHONDRIAL PROCESSING PEPTIDASE BETA SUBUNIT PRECURSOR 1	sp O75439 MPBP_HUMAN	98%	65	1444
						99%	89	1444
						100%	39	89
HAHEA15	847013	26	blastx.2	HYPOTHETICAL 31.4 KDA PROTEIN.	sp Q9NWD5 Q9NWD5	99%	30	560
						76%	455	832
HAAJA47	534670	27	blastx.2	CDAL4.	sp Q9NZA3 Q9NZA3	100%	17	157
HAIAY92	845601	28	blastx.2	ORF2-LIKE PROTEIN (FRAGMENT).	sp O00549 O00549	31%	1721	2242
						52%	2226	2333
						39%	1602	1769
						25%	661	915
HAIJBV67	866415	29	blastx.2	SM-11044 BINDING PROTEIN (FRAGMENT).	sp Q9UHW8 Q9UHW8	99%	116	1681
						100%	13	126
HAAAG15	852204	31	HMMER 2.1.1	PFAM: von Willebrand factor type A domain	PF00092	180.1	506	1057
			blastx.2	INTEGRIN ALPHA-10 PRECURSOR.	sp O75578 ITAG_HUMAN	98%	8	3508
HAQCE11	633730	33	blastx.2	(AY012159) virion-associated nuclear-shuttling protein [Mus musculus]	gbl AA042155.1	96%	48	134
						32%	464	547
HATCI03	580805	37	blastx.2	CDNA: FLJ21463 fis, clone COL04765.	sp BAB15071 BAB15071	68%	924	688
HBAAGD86	838799	39	blastx.2	HYPOTHETICAL PROTEIN (FRAGMENT).	sp Q14287 Q14287	37%	801	559
HBDAB91	789532	41	blastx.2	PUTATIVE P150.	sp O00370 O00370	36%	529	5
						40%	587	513
HBDAB91	864374	42	blastx.2	PUTATIVE P150.	sp O00370 O00370	36%	849	307
						40%	907	833
HBGBC29	691473	43	blastx.2	BETA-1.4-GALACTOSYLTRANSFERASE.	sp O60513 O60513	98%	65	1021
						100%	1	78
HBBHA05	603174	45	blastx.2	PROZ550.	sp AAG35515 AAG35515	71%	676	386
HBBHA81	846465	46	blastx.2	CDNA FLJ10724 FIS, CLONE NT2RP3001176.	sp Q9NVH9 Q9NVH9	27%	49	1356
						35%	1341	1460
HBIAC29	831751	48	blastx.2	CDNA FLJ11730 fis, clone	sp BAB13898 BAB13898	100%	25	597

HBJAB02	837309	50	blastx.2	HEMBA1005403. CDNA FLJ20062 FIS, CLONE COL01508.	sp Q9NXT6 Q9NXT6	100% 38% 35% 28%	2 1627 1616 1675 1687	1267
HBJCR46	815649	53	HMMER 2.1.1 blastx.2	PFAM: WD domain, G-beta repeat D703H14.1 PROTEIN (FRAGMENT).	PF00400	36.6	790	867
HBJDS79	813588	54	WUblastx.6 4	(AK011059) putative [Mus musculus]	db JBA827367.1	92% 89% 93% 100% 66%	1119 1322 1032 1509 2	1325 1519 1127 1532 1075
HBJEL16	847030	56	blastx.2	PROTEIN ZERO RELATED PROTEIN.	sp O95297 O95297	98%	285	491
HBJIC20	866159	58	HMMER 2.1.1 blastx.2	PFAM: Cytochrome c oxidase subunit III CYTOCHROME C OXIDASE POLYPEPTIDE III (EC 1.9.3.1).	PF00510 sp P00414 COX3_HUMA N	162.6 95%	321 9	551 617
HBJKD16	853358	59	blastx.2	CDNA FLJ20080 FIS, CLONE COL03184.	sp Q9NXS4 Q9NXS4	99%	8	1528
HBMBM96	561935	60	blastx.2	CDNA: FLJ21463 fis, clone COL04765.	sp BAB15071 BAB15071	75%	814	518
HBMTX26	695704	63	blastx.2	HYPOTHETICAL PROTEIN (FRAGMENT).	sp Q14288 Q14288	44% 47% 61% 54% 44% 53% 66%	546 985 272 611 985 839 136	139 608 156 507 863 795 101
HBMUY48	637521	64	blastx.2	CDNA: FLJ23235 fis, clone CAS04980.	sp BAB15583 BAB15583	100%	54	941
HBMUHT4	866160	65	blastx.2	(AL156843) hypothetical protein [Homo sapiens]	emb CAB66777.1	100%	11	427

HBMWE61	778066	66	blastx.2	(AF319977) mage-43 [Mus musculus]	gb AAK01205.1]	92% 72% 67% 64% 61% 60% 47% 42% 43% 46% 44% 43% 47% 46% 43% 45% 42% 44% 42% 41% 42% 42% 42% 40% 41% 41% 40% 39% 43% 43% 40% 44% 37% 42% 41%	302 585 585 585 585 588 576 576 585 585 585 585 594 579 594 588 585 594 585 579 588 585 579 585 573 585 585 594 579 579 585 588 579 600 576 591 579	586 863 863 863 851 863 836 863 851 851 863 863 845 824 836 851 854 851 854 845 863 854 827 842 845 875 836 848 851 851 851 851 821 821 863 851 848
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HBNAX40	834801					(AX062318) unnamed protein product [synthetic construct]	emb CAC25073.1	37%	585	863
HBQAB79	810542				67	AD 3 (FRAGMENT).	sp Q9UQ32 Q9UQ32	41%	588	845
HBSAK32	856387				69	(AL161656) bA12M19.1.3 (novel protein) [Homo sapiens]	emb CAC21463.1	40%	594	854
HBXCM66	639039				71	CDNA: FLJ21463 fis. clone COL04765.	sp BAB15071 BAB15071	41%	579	842
HBXCX15	637542				72	CDNA: FLJ21394 fis. clone COL03536.	sp BAB15056 BAB15056	44%	591	815
HCDCY76	837972				73	frizzled protein 4 - human	pir C7127 C7127	39%	594	845
HCEIG78	761204				74	PFAM: Inositol polyphosphate phosphatase family, catalytic domain	PF00783	43%	585	854
HCEIH52	847007				76	WUCSC:H_DJ412A9.2 PROTEIN (FRAGMENT).	sp Q9UDT9 Q9UDT9	39%	588	851
					77	probable transposase - human	pir S72481 S72481	50%	579	740
								37%	579	854
								41%	594	842
								40%	585	827
								44%	579	815
								39%	594	842
								43%	618	851
								35%	579	863
								35%	642	851
								100%	221	481
								100%	1	222
								82%	323	204
								98%	2	412
								67%	1009	809
								77%	836	690
								39%	738	547
								39%	925	734
								52%	899	831
								100%	1051	527
								81%	567	37
								48%	157	74
								31%	994	785
								277.3	77	775
								90%	8	1588
								95%	8	67
								70%	694	1260

HCE3B04	831151	78	blastx.2	transposon MER37		60%	564	758
				HYPOTHETICAL 31.3 KDA PROTEIN (FRAGMENT).	sp O43466 O43466	77%	430	564
HCEBR26	771144	80	blastx.2	CDNA FLJ20489 FIS, CLONE KAT08285.	sp Q9NX17 Q9NX17	49%	217	972
HCEEQ25	531784	82	blastx.2	SODIUM CHANNEL 2.	sp P78349 P78349	53%	300	758
						98%	836	1003
						90%	401	490
HCEEU18	688041	83	blastx.2	UNNAMED PORTEIN PRODUCT.	sp Q9N083 Q9N083	69%	1417	1115
HCEFF282	831745	84	blastx.2	(BC001698) Similar to lipase protein [Homo sapiens]	gb AAH01698.1 AAH01698	95%	311	433
HCFNL88	610000	86	blastx.2	BCL7B protein - human	pi S58284 S58284	100%	658	714
HCHAB84	834326	88	blastx.2	(AX061649) unnamed protein product [Homo sapiens]	emb CAC25009.1	93%	433	480
HCONS29	862314	91	blastx.2	HUNTINGTIN-INTERACTING PROTEIN HYPAFBP11 (FRAGMENT).	sp O75400 O75400	56%	1223	933
						49%	186	10
HCRAY10	695709	96	blastx.2	HSPC244.	sp Q9PN55 Q9PN55	100%	17	604
HCRBF72	828945	97	blastx.2	MITOTIC SPINDLE ASSEMBLY CHECKPOINT PROTEIN MAD2B 1	sp Q9UT95 MD22_HUMAN	95%	594	782
HCUCF89	637986	100	blastx.2	PRO2822.	sp Q9P147 Q9P147	86%	278	475
						100%	82	744
HCUCK44	790277	101	blastx.2	hypothetical protein DKFZp564J157.1 - human (fragment)	pi T34520 T34520	99%	337	1605
						84%	503	426
						100%	421	398
						99%	29	529
HCWFFU39	651316	104	blastx.2	CDNA FLJ20366 FIS, CLONE HEP18008.	sp Q9NX95 Q9NX95	100%	266	9
						84%	427	236
HDPDF72	897277	109	blastx.2	adult-specific brush border protein - rabbit	pi C45665 C45665	67%	11	223
HDPDF58	587265	110	blastx.2	hypothetical protein DKFZp434D2328.1 - human	pi T42691 T42691	76%	746	1450
						100%	307	627

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HDPFU43	790189	112	blastx.2	PROTEIN-TYROSINE SULFOTRANSFERASE 2 (EC 2.8.2.20) 1	sp O60704 TPS2_HUMA N		31% 26% 30% 33% 30% 31% 33% 28% 27% 37%	1614 1512 1174 1306 1174 1162 1183 468 246 1629	1898 1512 1536 1652 1494 1539 1500 893 965 2111
HDPGE24	801947	114	blastx.2	NEURONAL THREAD PROTEIN AD7C-NTP.	sp O60448 O60448		56% 52% 55% 77% 52% 77% 62% 62% 53% 66% 39% 40% 57% 44% 29% 51% 50% 56% 51% 39% 53% 66% 60%	1418 1413 1452 1528 2528 2594 2525 2533 1858 1314 1813 1301 1457 2625 2242 2527 1857 1857 1364 1836 1305 2461 1800 2522 1380	1179 1237 1291 2448 2394 2433 2453 1763 1186 1742 1098 1248 2524 2078 2144 1723 1750 1290 1714 1177 2366 1747 2442 1321

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DISCUSSION

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HE2CA60	888705	130	blastx.2	CISPLATIN RESISTANCE-ASSOCIATED OVEREXPRESSED PROTEIN.	sp Q9P2S7 Q9P2S7	81% 79%	1347 1658	1757 1744
HE2CM39	553651	132	blastx.2	SIMILAR TO RING-H2 FINGER PROTEIN RHA1A.	sp Q9SNH1 Q9SNH1	61%	565	449
HE2HC60	753265	133	blastx.2	CDNA FLJ10814 FIS, CLONE NT2RP4000984.	sp Q9NVC4 Q9NVC4	99%	125	1300
HE6CS65	762960	136	blastx.2	CDNA: FLJ21047 fis, clone CAS00253.	sp BAB14967 BAB14967	98%	938	1378
HE6DO92	562767	137	blastx.2	gag polyprotein - human endogenous virus S71	pi A46312 A46312	80% 64%	19 623	633 928
HE6EY13	847058	138	blastx.2	HYPOTHETICAL 28.3 KDA PROTEIN.	sp Q95476 Q95476	99%	5	490
HE6FU11	827236	139	HMMER 2.1.1 WUblastx.6 4	PFAM: von Willebrand factor type A domain (AJ007581) matrilin-4 [Homo sapiens]	PF00092	184.7	244	771
HE8FC45	843781	141	blastx.2	CDNA FLJ20378 FIS, CLONE KAIA0536.	sp Q9NX85 Q9NX85	72% 75%	1845 1672	1663 1553
HE8FC45	845672	142	blastx.2	CDNA FLJ20378 FIS, CLONE KAIA0536.	sp Q9NX85 Q9NX85	46% 72% 75%	1312 1845 1672	1172 1663 1553
HE8FD92	856544	145	blastx.2	HYPOTHETICAL 105.9 KDA PROTEIN.	sp Q9UIJ9 Q9UIJ9	46% 75% 85% 87% 84% 48%	1312 2 2 389 2 2	1172 1414 1102 1345 613 1267

HE8FD92	869847	146	blastx.2	HYPOTHEICAL 105.9 KDA PROTEIN.	sp Q9UJ9 Q9UJ9	48% 41% 39% 38%	167	1102 1075 1345 331
						95% 83% 45% 57% 56% 65% 40% 62% 62% 60% 50% 43%	4 4 1 1 31 4 331 331 331 316 40	609 540 462 297 297 270 462 540 540 540 540 258
HE8FD92	901142	147	blastx.2	HYPOTHEICAL 105.9 KDA PROTEIN.	sp Q9UJ9 Q9UJ9	94% 78% 48% 48% 62% 60% 50% 58% 43%	25 25 61 61 202 202 187 25 58	480 411 408 411 411 411 411 141 168 129
HE8SC96	862016	148	blastx.2	CDNA: FLJ121463 fis, clone COL04765.	sp BAB15071 BAB15071	69% 66%	1860 2020	1696 1868
HE8TY46	899528	149	blastx.2	ZINC FINGER PROTEIN 289.	sp Q9JIH1 Q9JIH1	94%	318	938
HE9EA10	827796	151	blastx.2	laminin alpha-1 chain precursor - human	pti S14458 S14458	99% 28% 55%	761 878 736	1891 1840 789
HEBFR46	847064	157	blastx.2	CDNA FLJ20378 FIS, CLONE KAI0536.	sp Q9NX85 Q9NX85	81%	1304	1110
HEBGE07	798096	158	blastx.2	CDNA FLJ20378 FIS, CLONE KAI0536.	sp Q9NX85 Q9NX85	80% 81%	1111 1863	1022 1720

HELA135	693175	160	blastx.2	CDNA: FLJ21463 fis, clone COL04765.	sp BAB1507 JBAB15071	69% 90%	2110 2111	1802 2079
HELB054	637624	161	blastx.2	CDNA: FLJ21463 fis, clone COL04765.	sp BAB1507 JBAB15071	59%	1255	1031
HEMEY47	834491	164	blastx.2	PRO2550.	sp AAG35515 AAG35515	63%	509	838
HEPBA14	855935	166	blastx.2	peptidylprolyl isomerase (EC 5.2.1.8) A - bovine	pir A01852 CSBOAB	92% 83% 81%	85 423 50	426 515 77
HEQA080	701984	167	blastx.2	CDNA: FLJ21463 fis, clone COL04765.	sp BAB1507 JBAB15071	58%	1107	805
HEQBF89	786205	168	blastx.2	CDNA FLJ20378 FIS, CLONE KAI0536.	sp QNX85 QNX85	61% 70% 70% 70%	827 858 859 855	516 829 830 826
HETC116	844543	169	blastx.2	BOG25.	sp Q9POV3 Q9POV3	99%	3	356
HETDW58	790557	170	blastx.2	(AF251296) TPA018 [Homo sapiens]	gb AAG44596.1 AF251296.1	100%	324	1058
HFCFE20	701985	175	blastx.2	EUKARYOTIC TRANSLATION INITIATION FACTOR 3 SUBUNIT 10.1	sp Q14152 IEF3A_HUMAN	89% 87% 44% 34% 29% 30%	438 1083 1071 1083 1083 1083	581 1205 1178 1205 1205 1172
HFEAY59	658685	176	blastx.2	C29.	sp Q9Z320 Q9Z320	79% 83% 39% 21%	50 403 486 608	1153 495 584 799
HFGAJ16	580824	177	blastx.2	CDM protein - human	pir S44279 S44279	97%	263	403
HFIJAZ9	839206	179	blastx.2	PRO1902 PROTEIN.	sp Q9UHT1 Q9UHT1	59% 46%	1026 889	880 806
HFIJAG8	847074	180	blastx.2	SIX TRANSMEMBRANE EPITHELIAL ANTIGEN OF PROSTATE.	sp Q9UHE8 STEAM_HUMAN	100%	13	399
HFKES05	827572	181	blastx.2	SREBP cleavage activating protein - Chinese hamster	pir T18526 T18526	85% 74%	241 9	1722 509

HPKEU12	634006	182	blastx.2	hypothetical protein 3 - rat	pir S21347 S21347	62% 38% 51% 53%	387 756 757 695	692 1031 933 778
HPDSD07	821646	185	blastx.2	(AF327434) glutaminase [Homo sapiens]	gb AAG47842.1 AF32743 4.1	84% 79%	2 343	436 528
HPVGNK35	731868	189	blastx.2	CDNA: FLJ21463 fis, clone COL04765.	sp BAB15071 BAB15071	60%	528	833
HPVHW43	570948	190	blastx.2	CDNA FLJ11786 fis, clone HEMBA1006036.	sp BAB13911 BAB13911	67%	1223	1068
HPXAV37	626595	191	blastx.2	NEURONAL THREAD PROTEIN AD7C-NIP.	sp O60448 O60448	59% 64% 69% 52% 69% 58% 68% 56% 37% 45% 43% 47% 42% 78% 60% 31% 75% 43% 40% 59% 52% 47% 34% 60%	1453 607 606 1472 607 1454 473 1295 558 1342 1408 1366 1412 402 1240 549 1404 1454 1467 1287 1229 607 583 398 1187	1187 407 406 1218 461 1275 333 1173 346 1232 1169 1232 1275 361 1166 355 1357 1386 1402 1222 1179 539 461 354 1110
HPXB766	580831	193	blastx.2	CDNA: FLJ21463 fis, clone COL04765.	sp BAB15071 BAB15071	63% 54%	535 809	807 913

HGBER72	826710	195	blastx.2	CDNA FLJ120489 FIS, CLONE KAT08285.	sp Q9NXL7 Q9NXL7	72% 55%	1284 1082	1063 942
HGBHP91	693011	198	blastx.2	PUTATIVE P150.	sp O00372 O00372	45% 52% 30%	537 541 94	52 491 5
HGCAC19	851527	199	blastx.2	WUGSCH_DJ0687K01.2 PROTEIN.	sp Q9UIE9 Q9UIE9	100%	361	2712
HGCAC19	801999	200	blastx.2	CDNA: FLJ22454 fis, clone HRC09703 (Fragment).	sp BAB15362 BAB15362	99% 38%	184 1057	1473 1473
HGCAC19	842540	201	blastx.2	CDNA: FLJ22454 fis, clone HRC09703 (Fragment).	sp BAB15362 BAB15362	99% 53% 64% 53% 52% 48% 34% 36%	182 890 1049 998 1052 1052 956 1052	1471 1495 1495 1495 1525 1540 1615 1648
HHAEK45	765278	202	blastx.2	DJ202121.1 (NOVEL PROTEIN) (CDNA FLJ11101 FIS, CLONE 1)	sp Q9NPB0 Q9NPB0	99%	1949	1401
HHQOW19	886174	204	blastx.2	RAB5 GDP/GTP EXCHANGE FACTOR HOMOLOGUE.	sp Q9UJ41 Q9UJ41	89% 81% 91% 92% 64%	166 465 611 129 420	426 656 715 167 470
HHHF87	778071	205	blastx.2	coatamer zeta chain - bovine	pii A49465 A49465	100%	50	145
HHFT134	755230	206	blastx.2	NEURONAL THREAD PROTEIN AD7C-NTP.	sp O60448 O60448	43% 71% 66% 63% 63% 58% 50% 44% 41% 66% 60%	297 2631 2048 2029 2631 2464 1963 2631 2541 2410 2475	1872 2407 1818 1787 2461 2348 1829 2530 2392 2348 2416

HKAB143	838573	227	blastx.2	CG6756 PROTEIN. (AB055298) hypothetical protein [Macaca fascicularis]	sp Q9VKG8 Q9VKG8	42%	95	1582
HKACT9	853361	228	blastx.2		db BAB21923.1	72%	886	1104
HKAF50	790192	229	blastx.2	PRO1777.	sp Q9P1G7 Q9P1G7	93%	1753	1400
HKGPF25	738797	230	blastx.2	CDNA FLJ20489 FIS, CLONE KAT08285.	sp Q9NX17 Q9NX17	64%	1995	1630
HKMLK03	734213	232	blastx.2	UNNAMED PORTEIN PRODUCT.	sp Q9N083 Q9N083	65%	856	701
HKTAB41	695732	234	blastx.2	CDNA: FLJ22976 fis, clone KAT11222 (Fragment).	sp BAB15513 BAB15513	44%	1008	832
						92%	714	797
						92%	714	797
						80%	693	797
						77%	693	797
HLDDQU79	740755	237	WUblastx.6 4	(AF064093) KE04p [Homo sapiens]	gb AAC26638.1	90%	105	1142
HLDDQU79	837599	512	blastx.2	KE04P.	sp O75477 O75477	99%	81	1118
HLDDRT09	830544	238	blastx.2	ATP-binding cassette half-transporter.	sp AAG33617 AAG33617	99%	2	469
HLHAP05	638476	239	blastx.2	CDNA FLJ20489 FIS, CLONE KAT08285.	sp Q9NX17 Q9NX17	72%	1833	1585
						88%	1837	1811
						55%	1585	1526
						87%	1832	1809
						87%	1831	1808
HLHCS23	560663	240	blastx.2	LINE-1 ELEMENT ORF2.	sp O62658 O62658	42%	1098	1412
HLHBO72	883431	241	blastx.2	(AF140225) unknown [Homo sapiens]	gb AAG48521.1	97%	32	547
HLHJCE88	840321	242	blastx.2	fibrinogen gamma-A chain precursor [validated] - human	pit A90470 FGHUG	100%	3	584
HLMBW89	701996	245	blastx.2	BETA-1.4 MANNOSYLTRANSFERASE	sp Q9P2Y2 Q9P2Y2	100%	10	90
HLMGPF50	647603	246	blastx.2	Hypothetical 9.0 kDa protein.	sp BAB12374 BAB12374	72%	935	807
HLQAS12	886180	249	blastx.2	LECTIN-LIKE OXIDIZED LDL RECEPTOR.	sp P78380 P78380	63%	765	706
						100%	364	711
						75%	651	851
HLQCL64	864966	250	HMMER 2.1.1	PFAM: Major intrinsic protein	PF00230	87.3	87	449

HLQX36	584786	blastx.2	aquaporin 9 - human	pfjJC5973JC5973	98%	18	548
HLWDB73	838453	blastx.2	PRO0478 PROTEIN.	sp Q9UI59 Q9UI59	87%	1100	1216
HLYGB19	838083	blastx.2	CDNA: FLJ21016 fs, clone CAE05735.	sp BAB14955 BAB14955	98%	1	657
HLYGY91	638703	blastx.2	(ALJ136703) hypothetical protein [Homo sapiens]	emb CAB66638.1	100%	660	872
HMCAZ04	839783	blastx.2	CDNA FLJ13386 fs, clone PLACE1001104, weakly similar to 1	sp BAB14578 BAB14578	97%	204	518
HMCAZ04	839783	WUblastx.6	(AF042284) unknown [Homo sapiens]	sp AAAD41160.1 AF042284.1	94%	221	391
HMCAZ04	858210	blastx.2	HYPOTHETICAL 50.0 KDA PROTEIN.	sp Q9Y6N5 Q9Y6N5	100%	106	1455
HMCAZ04	867910	blastx.2	HYPOTHETICAL 50.0 KDA PROTEIN.	sp Q9Y6N5 Q9Y6N5	100%	106	1455
HMCAZ04	887445	blastx.2	HYPOTHETICAL 50.0 KDA PROTEIN.	sp Q9Y6N5 Q9Y6N5	100%	107	1456
HMCAZ04	668249	blastx.2	CGI-44 PROTEIN.	sp Q9UIQ8 Q9UIQ8	100%	9	1055
HMDAB29	584789	blastx.2	CDNA FLJ20489 fs, CLONE KAT08285.	sp Q9NX17 Q9NX17	72%	1186	890
HMEBB82	783077	blastx.2	MITOCHONDRIAL ISOLEUCINE TRNA SYNTHETASE (FRAGMENT).	sp Q9NSE4 Q9NSE4	99%	2	2206
HMEDE24	837027	blastx.2	CG1837 PROTEIN.	sp Q9YVY3 Q9YVY3	46%	104	1159
HMEID90	840077	blastx.2	Rab3 interacting protein variant 4 (Fragment).	sp AA023165 AA023165	38%	101	757
HMEIM75	587307	blastx.2	CDNA FLJ10468 fs, CLONE NT2RP2000007.	sp Q9NVW5 Q9NVW5	40%	794	1135
HMICP65	847403	blastx.2	Guanine nucleotide binding protein beta subunit 5L.	sp AAG18444 AAG18444	21%	2629	2823
HMSBE04	709672	blastx.2	CDNA: FLJ22969 fs, clone KAT10759.	sp BAB15511 BAB15511	100%	81	794
					100%	137	391
					99%	8	892
					23%	269	943
					85%	182	3

HMSCL38	801919	282	blastx.2	CDNA: ELJ21463 fs. clone COL04765.	sp BAB1507 JBAB15071	55% 71% 74%	1155 2841 2935	1472 2653 2855
HMSCR69	843059	283	HMMER 2.1.1 blastx.2	PFAM: Zinc finger present in dystrophin, CBP/p300	PF00569	48.2	113	250
HMSHC86	840402	284	blastx.2	POTASSIUM CHANNEL MODULATORY FACTOR. UNNAMED PROTEIN PRODUCT.	sp Q9P07 Q9P07	99%	107	1249
HMSHU20	847410	285	WUblastx.6 4	(AK025116) unnamed protein product [Homo sapiens]	sp Q9N083 Q9N083	67% 54% 70%	1674 1398 1724	1420 1234 1674
HMTAB77	847411	287	blastx.2	matrin 3 - rat	db JBAB15071.1	47%	1722	1453
HMUAE26	747403	288	blastx.2	SEVEN TRANSMEMBRANE DOMAIN ORPHAN RECEPTOR.	pir A40016 A40016	87% 100% 98% 53% 98% 26% 31% 35% 35%	1024 630 1055 242 2311 2760 3258 3428 2763 2596 1797 3312	2520 630 1055 242 2311 2760 3258 3428 2763 2596 1797 3312
HIMUAN45	833072	289	blastx.2	UNNAMED PROTEIN PRODUCT.	sp Q9N092 Q9N092	99% 100%	577 155	1272 575
HMVBC31	825598	290	blastx.2	PRENYLCYSTEINE CARBOXYL METHYLTRANSFERASE.	sp Q60725 Q60725	61% 70% 39% 30%	239 684 346 2022	1516 1238 1080 2231
HMYDU15	801969	291	blastx.2	CGI-30 PROTEIN.	sp Q9Y319 Q9Y319	100% 80%	88 747	789 938
HMWBL03	822861	292	blastx.2	hypothetical protein DKFZp762L0311.1 - human (fragment)	pir T50635 T50635	94% 56%	75 617	917 1237
HMWJF53	758158	293	blastx.2	Nuclear LIM interactor-interacting factor.	sp AAG15402 AAG15402	100% 91%	154 3	720 170

HNFAK81	722235	294	blastx.2	UNNAMED PORTEIN PRODUCT.	sp Q9N083 Q9N083	56%	770	1087
HNELC122	799541	295	blastx.2	HTO15 PROTEIN.	sp Q9NY22 Q9NY22	100% 100% 26%	1756 2204 2289	2202 2359 2289
HNEDH88	815675	297	blastx.2	(AB05283) hypothetical protein [Macaca fascicularis]	dbj BAB31907.1	43% 64% 57% 40% 44% 53%	1667 58 9 53 9 59	1825 99 50 247 95 97
HNFAK50	815676	298	blastx.2	(AF308287) serologically defined breast cancer antigen NY-BR-20 [Homo sapiens]	gb AA048255.1 AF30828 7_1	100%	425	282
HNFEHF34	722237	300	blastx.2	(AF205218) NSI-binding protein-like protein [Homo sapiens]	gb AA043485.1	100% 34% 35% 33% 32%	9 9 3 9 129	431 404 407 407 422
HNFAK51	603910	301	blastx.2	NEURONAL THRE/AD PROTEIN AD7C-NTP.	sp O60448 O60448	74% 66% 67% 45% 55% 43% 62% 62% 37%	714 702 733 631 530 542 629 626 527	914 878 915 903 631 709 715 706 751
HNFAK58	688114	302	blastx.2	CDNA: FLJ21463 fis. clone COL04765.	sp BAB15071 BAB15071	65% 85% 73%	818 1081 1020	1018 1143 1076
HNFGP65	597449	310	blastx.2	Hypothetical 14.1 Kda protein.	sp BAB12154 BAB12154	47% 32%	398 69	541 302
HNGB41	852178	313	blastx.2	probable oxysterol-binding protein D1430N08.1 - human (fragment)	pir T02435 T02435	100%	128	9
HNHFE71	834487	320	blastx.2	hypothetical protein	pir T47135 T47135	67%	822	583

HNHGK22	597451	321	blastx.2	DKFZap76L0812.1 - human (fragment) RETROVIRUS-RELATED POL. POLYPROTEIN [CONTAINS: REVERSE TRANSCRIPTASE (EC 2.7.7.49); ENDONUCLEASE].	sp P11369 POL.2_MOUSE	48% 37% 33% 23% 36%	733 483 483 177 337	485 10 37 177 248
HNHBB10	634589	322	blastx.2	NEURONAL THREAD PROTEIN AD7C-NTP.	sp Q60448 Q60448	64% 62% 50% 66% 40% 63% 33% 56% 68% 30% 55% 38% 77%	894 888 854 719 887 109 885 106 130 639 868 80	691 706 561 594 711 14 586 14 5 586 794 54
HNTBT17	855957	324	blastx.2	CYCLIN L ANIA-6A.	sp Q9UK58 Q9UK58	59% 43% 78% 41%	556 743 729 589	1440 1342 947 660
HIOACG07	792928	328	blastx.2	CDNA FLJ14158 fis, clone NT2RM1001112.	sp BAB14854 BAB14854	99%	183	704
HODBY05	825283	331	blastx.2	94 KDA B-RAF PROTEIN (FRAGMENT).	sp Q13878 Q13878	100%	566	661
HODCZ32	836069	332	blastx.2	WD-REPEAT PROTEIN 9 (FRAGMENT).	sp Q9NS16 WDR9_HUMAN	86%	8	331
HOEBK60	789396	333	blastx.2	CDNA FLJ13081 fis, clone NT2RP3002033.	sp BAB14427 BAB14427	98% 100% 88%	132 14 106	1916 109 159
HIOFAA78	836646	334	blastx.2	CDNA FLJ20084 FIS, CLONE COL03526.	sp Q9NX52 Q9NX52	88% 90% 50%	29 529 9	329 792 80
HOFNB74	762821	335	blastx.2	CDNA FLJ20374 FIS, CLONE	sp Q9NX88 Q9NX88	44%	172	510

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HORBY76	839270		blastx.2	PHOSPHATIDYLINOSITOL GLYCAN, CLASS L (EC 3.5.- -) (PIG-L 1)	sp Q9Y2B2 Q9Y2B2	100%	1249	1365
HOSD075	862049	340	blastx.2	CDNA FLJ11238 FIS, CLONE PLACEI008532.	sp Q9NUN7 Q9NUN7	100%	1249	1365
HOSCE25	688055	341	blastx.2	(AB055293) hypothetical protein [Macaca fascicularis]	db JBAB21918.1	65%	1249	1365
HOSEJ94	795132	343	blastx.2	(AF261138) HT032 [Homo sapiens]	gb AAG44674.1 AF26113 8.1	65%	1248	1364
HOUCA21	655359	344	blastx.2	PRO2822.	sp Q9P147 Q9P147	100%	1249	1365
HOUDE92	580866	345	blastx.2	Hypothetical 17.2 kDa protein.	sp AAG17210 AAG17210	70%	1249	1365
HOUTDR07	745404	346	blastx.2	Angiotensin-like protein PP1158.	sp AAG22490 AAG22490	96%	170	1384
HOUED72	858547	347	blastx.2	ribosomal protein L15, cytosolic [validated] - rat	pir JC2369 JC2369	100%	110	721
HOUFS04	771564	348	blastx.2	CG12001 PROTEIN.	sp Q9VYN45 Q9VYN45	32%	1353	1982
HOUHI25	888279	349	blastx.2	WUGSCH_D00593H12.2 PROTEIN.	sp O95003 O95003	26%	141	380
HPCAL26	762822	352	blastx.2	(AL136914) hypothetical protein [Homo sapiens]	emb CAB66848.1	100%	73	795
HPPFBA54	635559	354	blastx.2	NAG13.	sp AAG27485 AAG27485	77%	135	497
HPPFC136	855966	355	blastx.2	CDNA FLJ20445 FIS, CLONE	sp Q9NXX47 Q9NXX47	98%	398	640
						71%	394	68
						84%	602	393
						73%	766	602
						76%	795	733
						86%	135	91
						100%	9	320

HPBIU43	862058	360	blastx.2	KAT05170.	sp Q9P1E1 Q9P1E1	54%	187	44
HPMCJ84	562779	363	blastx.2	PRO2251.	sp AAG3515 AAG3515	65%	646	467
HPMCV30	612870	364	blastx.2	HYPOTHETICAL 15.4 KDA PROTEIN.	sp Q9770 Q9770	65%	786	613
HPQAX38	843592	366	blastx.2	CDNA FLJ20378 FIS, CLONE KAI0536.	sp Q9NX85 Q9NX85	76%	614	384
HPQAX38	845752	367	blastx.2	CDNA FLJ20378 FIS, CLONE KAI0536.	sp Q9NX85 Q9NX85	56%	885	607
HPRBH85	695752	370	blastx.2	Hypothetical 49.2 kDa protein.	sp BAB17282 BAB17282	58%	605	513
HPRC64	824074	371	blastx.2	NCK-ASSOCIATED PROTEIN 1 (NAP 1) (P125N94).1	sp Q9Y2A7 NCP1_HUM	97%	534	977
HPRCT35	853551	372	blastx.2	hypothetical protein DKFZp762L1710.1 - human (fragment)	pir T50629 T50629	63% 2 64% 214 59% 935	387 1019 11 481	616 549 1015
HPTRM02	812879	373	blastx.2	SRC HOMOMLOGY 3 DOMAIN-CONTAINING PROTEIN HIP-35 (DREBRIN F).	sp Q9UU6 Q9UU6	98% 296 100% 2	98 940 2 448	613 250
HRAD30	866187	376	blastx.2	CDNA: FLJ21839 fis, clone HEP01794.	sp BAB1515 BAB1515	99%	23	1393
HRADA42	827302	377	blastx.2	hypothetical protein C11D2.4 - Caenorhabditis elegans	pir T32961 T32961	74% 668 48% 387	668	931
HRAD49	866481	378	blastx.2	CDNA: FLJ22169 fis, clone HRC00632.	sp BAB15246 BAB15246	98% 13 98% 813 77% 1291 34% 1590	825 1379 1593 1685	825 1379 1593 1685
HRADN25	800628	379	blastx.2	MYG1 homolog.	sp AAG17847 AAG17847	99%	47	1174
HRDAL17	560720	381	blastx.2	CDNA: FLJ21463 fis, clone COL04765.	sp BAB15071 BAB15071	70%	1495	1334
HRDDQ39	840405	382	blastx.2	CDNA FLJ20378 FIS, CLONE	sp Q9NX85 Q9NX85	66%	775	578

HKDER22	688056	383	blastx.2	KAJA0536 CDNA FLJ10390 FIS. CLONE NT2RM4000104, MODERATELY SIMILAR TO 1	sp Q9NW07 Q9NW07	53% 100% 41%	582 9 63	436 443 347
HRDEX93	816046	384	blastx.2	PEPLIN	sp Q9UBV8 Q9UBV8	100%	13	864
HRDFK37	840381	385	blastx.2	UNNAMED PROTEIN PRODUCT	sp Q9N032 Q9N032	57%	487	642
HRGBD54	828436	386	blastx.2	HPK/GCK-LIKE KINASE HKG.	sp O95819 O95819	78% 69% 87% 27%	379 253 253 6	2019 831 253 149
HSAVA08	580870	388	blastx.2	(AB05293) hypothetical protein [Macaca fascicularis]	db JBAB21918.1	66% 46% 57% 63%	1059 941 949 796	934 792 896 764
HSAVW42	637660	389	blastx.2	SIMILAR TO RING-H2 FINGER PROTEIN RHA1A, (FRAGMENT).	sp Q9SNH1 Q9SNH1	81% 73%	595 594	497 493
HSAWZ40	634000	391	blastx.2	ORF2-LIKE PROTEIN (FRAGMENT).	sp O00549 O00549	64% 64%	613 951	8 610
HSDZM54	637870	393	blastx.2	NADH dehydrogenase (ubiquinone) (EC 1.6.5.3) chain 3 - human mitochondrion	pit A00422 DNHUN3	86%	226	516
HSHBF76	715838	394	blastx.2	(AF194407) unknown [Homo sapiens]	gb AAAG42221.1	66% 50% 72%	1267 762 834	836 460 748
HSHBY32	702020	396	blastx.2	(AJ278118) neuronal nicotinic acetylcholine alpha10 subunit [Homo sapiens]	emb CAC20435.1	96% 84%	215 466	514 684
HSKDR27	580874	397	blastx.2	HYDROXYPROLINE-RICH GLYCOPROTEIN (FRAGMENT).	sp Q39866 Q39866	33% 75% 46%	86 668 466	352 691 510
HSLHX15	777861	399	blastx.2	(A7012159) viron-associated nuclear-shuttling protein [Mus musculus]	gb AAQ42155.1	100% 58%	180 487	263 522
HSNBM34	635131	402	blastx.2	acyl-CoA dehydrogenase (EC 1.3.99.-) very-long-chain	pit S54183 S54183	99% 100%	113 1548	1546 1979

HSOAH16	827058	403	blastx.2	specific - human CDNA FLJ20489 FIS, CLONE KAT08285.	sp Q9NXI7 Q9NXI.7	35%	2053	2178
HSQDO85	853393	405	blastx.2	CG10161 PROTEIN.	sp Q9VCK0 Q9VCK0	55% 76% 80%	707 715 721	399 677 692
HSQES57	831222	406	WUblastx.6 4	(AF151850) CGI-92 protein [Homo sapiens]	gb AD34087.1 AF15185 0.1	64% 61% 56%	485 60 10	1021 521 57
HSRBE06	871264	407	blastx.2	PMO2550.	sp AAG3515 AAG351.5	93%	195	980
HSSDI26	560722	408	blastx.2	HYPOTHETICAL 15.4 KDA PROTEIN.	sp Q9770Q Q9770	70% 66%	1626 1398	1327 1264
HSSEA64	853395	409	blastx.2	Hypothetical 17.2 kDa protein.	sp AAG17210 AAG17210	98%	7	243
HSSBF77	658725	410	blastx.2	WW DOMAIN BINDING PROTEIN-1.	sp O95637 O95637	100% 59%	296 10	829 468
HSSFE38	742512	411	HMMER 2.1.1 blastx.2	PFAM: Ribonuclease HII (RNASE H1)	PF01351	76.3	184	-142
HSWBE76	751308	413	blastx.2	RIBONUCLEASE HII LARGE SUBUNIT (EC 3.1.26.-)	sp O75792 RNHL_HUM AN	99% 91%	587 156	1051 635
HISXCP38	895392	414	blastx.2	(RNASE H1) CDNA FLJ10375 FIS, CLONE NT2RM2001950.	sp Q9NW15 Q9NW15	100%	84	266
HSYBI06	740766	415	blastx.2	hydroxymethylglutaryl-CoA lyase (EC 4.1.3.4) - chicken	pit B45470 B45470	73%	17	895
HT4FV41	853400	418	blastx.2	(AB055298) hypothetical protein [Macaca fascicularis]	dh pAB21923.1	78% 69%	821 916	913 954
HT5GR39	801930	420	blastx.2	collagen alpha 1(I) chain - chicken (tentative sequence) 1	pit A90458 CGCH1S	30%	1388	30
HTAEI78	637684	421	blastx.2	DOCKING PROTEIN.	sp O60496 O60496	73% 100%	70 687	1284 1031
HTDAAT8	566861	422	blastx.2	EMDC: II PROTEIN. (AL137800) dJ127C7.3 (actin related protein 2/3 complex, subunit 5 (16 kD)) [Homo sapiens]	sp Q9Y350 Q9Y350 emb CAC19687.1	90% 58%	85 84	174 302
HTEA662	812332	423	blastx.2	HOST CELL FACTOR 2.	sp Q9Y527 Q9Y527	98%	14	2011

HTBCB02	806305	424	blastx.2	hypothetical protein DKFZp434B055.1 - human	piT146484 T46484	34% 63%	107 1	631 57
HTBCC15	866488	425	blastx.2	WAVE-1.	sp AAG02214 AAG02214	76%	180	1211
HTEDS12	838621	428	blastx.2	(AL136765) hypothetical protein [Homo sapiens]	emb CAB66699.1	97% 99% 36%	1105 321 1312	1998 1100 1785
HTEEF26	789606	431	blastx.2	CDNA FLJ14117 fs, clone MAMMA1001785.	sp BAB14846 BAB14846	100%	16 97% 1029 1269	1011 1391 1490
HTEEF26	879704	432	blastx.2	CDNA FLJ14117 fs, clone MAMMA1001785.	sp BAB14846 BAB14846	100%	80	634
HTEEW69	764835	433	WUblastx.6 4	(AX059852) unnamed protein product [Homo sapiens]	emb CAC24858.1	100%	80	634
HTEGS07	827700	434	blastx.2	SMOOTHIELIN-C.	sp Q91814 Q91814	70%	179	1150
HTEHA56	806461	436	blastx.2	CDNA FLJ12895 fs, clone NT2RP2004187, weakly similar to 1	sp BAB14332 BAB14332	63% 95% 78%	183 205 2	617 543 271
HTEDD29	695798	438	blastx.2	LINE-1 REVERSE TRANSCRIPTASE (FRAGMENT).	sp O00172 O00172	56% 40%	964 818	1086 949
HTENR63	877952	441	blastx.2	Hypothetical nuclear factor SBB122.	sp AAF99604 AAF99604	99% 33%	26 1278	1342 1358
HTGGM44	842856	442	blastx.2	probable phosphodiesterase 1 (EC 3.1.4.1) - human (fragment)	piT143461 T43461	100% 100%	1925 1400	2488 1924
HTLBT80	840045	445	blastx.2	CGH-15 PROTEIN.	sp Q9Y304 Q9Y304	99%	313	945
HTLDA84	686397	446	blastx.2	CDNA: FLJ21463 fs, clone COL04765.	sp BAB15071 BAB15071	100%	942	1298
HTLDN29	790195	447	blastx.2	DIG3O20.1 (SIMILAR TO BOS TAURUS P14) (FRAGMENT).	sp Q9Y3M7 Q9Y3M7	76%	1430	1134
HTLEC82	811992	449	blastx.2	SM-20.	sp AAG33965 AAG33965	100%	294	1139
						74%	111	479

HTLTM16	779133	450	blastx.2	WW DOMAIN BINDING PROTEIN-2.	sp Q95638 Q95638	99%	50	841
HTLFA13	535937	452	blastx.2	CDNA FLJ20489 FIS, CLONE KAT08285.	sp Q9NXX1 Q9NXX17	56%	1159	839
HTLGI89	835069	454	blastx.2	AP47 protein - mouse	pir S19693 S19693	98%	675	1370
HTLJF11	843506	455	blastx.2	ORNITHINE DECARBOXYLASE-2.	sp Q918S4 Q918S4	98%	104	682
HTLJF12	834946	456	blastx.2	proline-rich protein PRB1/2S (EA) - human (fragment)	pir D40750 D40750	59%	353	1687
HTLJF12	842691	457	blastx.2	proline-rich protein PRB1/2S (EA) - human (fragment)	pir D40750 D40750	52%	309	356
HTLJF12	870167	458	blastx.2	proline-rich protein PRB1/2S (EA) - human (fragment)	pir D40750 D40750	52%	768	866
HTLJF12	886780	459	blastx.2	proline-rich protein PRB1/2S (EA) - human (fragment)	pir D40750 D40750	35%	129	323
HTLJF12	891533	460	blastx.2	proline-rich protein PRB1/2S (EA) - human (fragment)	pir D40750 D40750	52%	770	868
HTLJF12	901225	461	blastx.2	proline-rich protein PRB1/2S (EA) - human (fragment)	pir D40750 D40750	35%	131	325
HTNBK13	831967	463	blastx.2	(AL136686) hypothetical protein [Homo sapiens]	emb CAB6662.1	100%	123	500
HTOAI50	638623	464	blastx.2	PRO1438.	sp Q9P1H3 Q9P1H3	68%	1251	1138
HTOAMI1	664508	465	blastx.2	CDNA: FLJ21463 fis, clone COL04765.	sp BAB15071 BAB15071	75%	603	433
HTOEVI6	853616	468	blastx.2	1-ACYL-SN-GLYCEROL-3-PHOSPHATE ACYLTRANSFERASE DELTA (EC 1.1.1)	sp Q9NRZ5 PLCD_HUMAN	68%	448	308
HTOHQ21	732808	470	blastx.2	p47 LBC oncogene - human	pir I38434 I38434	99%	379	1164
HTOHQ05	853621	471	blastx.2	CYCLO-E BINDING PROTEIN 1.	sp Q9UI4 Q9UI4	98%	201	383
HTOIL95	806212	472	blastx.2	ORF1 CODES FOR A 40 KDA PRODUCT.	sp Q15605 Q15605	97%	581	438
HTOIL95	762851	473	blastx.2	L1 ELEMENT L1.24 P40.	sp Q00373 Q00373	100%	669	791
						63%	751	161
						86%	192	61
						57%	876	730
						71%	607	248

HTPDU17	840596	474	blastx.2	CDNA FLJ10404 FIS. CLONE NT2RM4000486.	sp Q9NW00 Q9NW00	63%	279	85
						32%	683	609
HTSF32	637720	475	blastx.2	VESICLE ASSOCIATED MEMBRANE PROTEIN 2B.	sp Q9WUW2 Q9WUW2	94%	553	1308
HTTCB60	853401	476	blastx.2	RNA polymerase III transcription initiation factor BRF1.	sp AAG30222 AAG30222	60%	1068	1664
						36%	467	1444
						36%	908	1444
HTTBE41	840950	477	blastx.2	T-COMPLEX PROTEIN 1, BETA SUBUNIT (TCP-1- BETA) (CCT-BETA).	sp P78371 TCPB_HUMA N	86%	448	627
						75%	690	803
						99%	6	881
HTTEZ02	702027	478	blastx.2	protein [Homo sapiens]	emb CAB66746.1	100%	92	1696
						98%	6	314
						73%	278	391
						36%	54	185
						48%	54	128
						53%	78	116
HTWEH94	561680	479	blastx.2	UNNAMED PORTEIN PRODUCT.	sp Q9N083 Q9N083	55%	912	1151
						58%	856	906
HTXDC38	801935	482	blastx.2	HSPC171.	sp Q9NZZ7 Q9NZZ7	78%	100	486
						96%	437	514
HTXDC77	844258	483	HMMER 2.1.1	PFAM: Class 1 Histocompatibility antigen, domains alpha 1 and 2	PF00129	103.3	137	259
HTXFA72	853410	487	blastx.2	HLA-B*5501 - human	pi I72752 I72752	89%	216	947
						90%	65	256
						90%	256	285
HTXMCZ07	834881	490	blastx.2	UNNAMED PORTEIN PRODUCT.	sp Q9N083 Q9N083	63%	1854	1681
						59%	1688	1557
HURCL31	801938	491	blastx.2	hypothetical protein Sand - Fugu rubripes	pi T30808 T30808	66%	75	1469
HUKBT67	844446	492	blastx.2	hypothetical protein [Homo sapiens]	sp Q9V441 Q9V441	35%	601	1128
					emb CAB66829.1	100%	1040	1216
						100%	8	61
						32%	80	241

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[illegible]

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[123] Table 2 further characterizes certain encoded polypeptides of the invention, by providing the results of comparisons to protein and protein family databases. The first column provides a unique clone identifier, "Clone ID NO:", corresponding to a cDNA clone disclosed in Table 1A and/or Table 1B. The second column provides the unique contig identifier, "Contig ID:" which allows correlation with the information in Table 1B. The third column provides the sequence identifier, "SEQ ID NO:", for the contig polynucleotide sequences. The fourth column provides the analysis method by which the homology/identity disclosed in the Table was determined. The fifth column provides a description of the PFAM/NR hit identified by each analysis. Column six provides the accession number of the PFAM/NR hit disclosed in the fifth column. Column seven, score/percent identity, provides a quality score or the percent identity, of the hit disclosed in column five. Comparisons were made between polypeptides encoded by polynucleotides of the invention and a non-redundant protein database (herein referred to as "NR"), or a database of protein families (herein referred to as "PFAM"), as described below.

[124] The NR database, which comprises the NBRF PIR database, the NCBI GenPept database, and the SIB SwissProt and TrEMBL databases, was made non-redundant using the computer program nrdb2 (Warren Gish, Washington University in Saint Louis). Each of the polynucleotides shown in Table 1B, column 3 (e.g., SEQ ID NO:X or the 'Query' sequence) was used to search against the NR database. The computer program BLASTX was used to compare a 6-frame translation of the Query sequence to the NR database (for information about the BLASTX algorithm please see Altschul et al., J. Mol. Biol. 215:403-410 (1990), and Gish and States, Nat. Genet. 3:266-272 (1993)). A description of the sequence that is most similar to the Query sequence (the highest scoring 'Subject') is shown in column five of Table 2 and the database accession number for that sequence is provided in column six. The highest scoring 'Subject' is reported in Table 2 if (a) the estimated probability that the match occurred by chance alone is less than $1.0e-07$, and (b) the match was not to a known repetitive element. BLASTX returns alignments of short polypeptide segments of the Query and Subject sequences which share a high degree of similarity; these segments are known as High-Scoring Segment Pairs or HSPs. Table 2 reports the degree of similarity between the Query and the Subject for each HSP as a percent identity in Column 7. The percent identity is determined by dividing the number of exact matches between the two aligned sequences in the HSP, dividing by the number of Query amino acids in the HSP and multiplying by 100. The polynucleotides of SEQ ID

NO:X which encode the polypeptide sequence that generates an HSP are delineated by columns 8 and 9 of Table 2.

[125] The PFAM database, PFAM version 2.1, (Sonnhammer, Nucl. Acids Res., 26:320-322, 1998))consists of a series of multiple sequence alignments; one alignment for each protein family. Each multiple sequence alignment is converted into a probability model called a Hidden Markov Model, or HMM, that represents the position-specific variation among the sequences that make up the multiple sequence alignment (see, e.g., Durbin, et al., *Biological sequence analysis: probabilistic models of proteins and nucleic acids*, Cambridge University Press, 1998 for the theory of HMMs). The program HMMER version 1.8 (Sean Eddy, Washington University in Saint Louis) was used to compare the predicted protein sequence for each Query sequence (SEQ ID NO:Y in Table 1B) to each of the HMMs derived from PFAM version 2.1. A HMM derived from PFAM version 2.1 was said to be a significant match to a polypeptide of the invention if the score returned by HMMER 1.8 was greater than 0.8 times the HMMER 1.8 score obtained with the most distantly related known member of that protein family. The description of the PFAM family which shares a significant match with a polypeptide of the invention is listed in column 5 of Table 2, and the database accession number of the PFAM hit is provided in column 6. Column 7 provides the score returned by HMMER version 1.8 for the alignment. Columns 8 and 9 delineate the polynucleotides of SEQ ID NO:X which encode the polypeptide sequence which show a significant match to a PFAM protein family.

[126] As mentioned, columns 8 and 9 in Table 2, "NT From" and "NT To", delineate the polynucleotides of "SEQ ID NO:X" that encode a polypeptide having a significant match to the PFAM/NR database as disclosed in the fifth column. In one embodiment, the invention provides a protein comprising, or alternatively consisting of, a polypeptide encoded by the polynucleotides of SEQ ID NO:X delineated in columns 8 and 9 of Table 2. Also provided are polynucleotides encoding such proteins, and the complementary strand thereto.

[127] The nucleotide sequence SEQ ID NO:X and the translated SEQ ID NO:Y are sufficiently accurate and otherwise suitable for a variety of uses well known in the art and described further below. For instance, the nucleotide sequences of SEQ ID NO:X are useful for designing nucleic acid hybridization probes that will detect nucleic acid sequences contained in SEQ ID NO:X or the cDNA contained in Clone ID NO:Z. These probes will also hybridize to nucleic acid molecules in biological samples, thereby

enabling immediate applications in chromosome mapping, linkage analysis, tissue identification and/or typing, and a variety of forensic and diagnostic methods of the invention. Similarly, polypeptides identified from SEQ ID NO:Y may be used to generate antibodies which bind specifically to these polypeptides, or fragments thereof, and/or to the polypeptides encoded by the cDNA clones identified in, for example, Table 1A and/or 1B.

[128] Nevertheless, DNA sequences generated by sequencing reactions can contain sequencing errors. The errors exist as misidentified nucleotides, or as insertions or deletions of nucleotides in the generated DNA sequence. The erroneously inserted or deleted nucleotides cause frame shifts in the reading frames of the predicted amino acid sequence. In these cases, the predicted amino acid sequence diverges from the actual amino acid sequence, even though the generated DNA sequence may be greater than 99.9% identical to the actual DNA sequence (for example, one base insertion or deletion in an open reading frame of over 1000 bases).

[129] Accordingly, for those applications requiring precision in the nucleotide sequence or the amino acid sequence, the present invention provides not only the generated nucleotide sequence identified as SEQ ID NO:X, and a predicted translated amino acid sequence identified as SEQ ID NO:Y, but also a sample of plasmid DNA containing cDNA Clone ID NO:Z (e.g., as set forth in columns 2 and 3 of Table 1A and/or as set forth, for example, in Table 1B, 6, and 7). The nucleotide sequence of each deposited clone can readily be determined by sequencing the deposited clone in accordance with known methods. Further, techniques known in the art can be used to verify the nucleotide sequences of SEQ ID NO:X.

[130] The predicted amino acid sequence can then be verified from such deposits. Moreover, the amino acid sequence of the protein encoded by a particular clone can also be directly determined by peptide sequencing or by expressing the protein in a suitable host cell containing the deposited human cDNA, collecting the protein, and determining its sequence.

RACE Protocol For Recovery of Full-Length Genes

[131] Partial cDNA clones can be made full-length by utilizing the rapid amplification of cDNA ends (RACE) procedure described in Frohman, M.A., et al., Proc. Nat'l. Acad. Sci. USA, 85:8998-9002 (1988). A cDNA clone missing either the 5' or 3' end can be reconstructed to include the absent base pairs extending to the translational start or stop

codon, respectively. In some cases, cDNAs are missing the start codon of translation, therefore. The following briefly describes a modification of this original 5' RACE procedure. Poly A+ or total RNA is reverse transcribed with Superscript II (Gibco/BRL) and an antisense or complementary primer specific to the cDNA sequence. The primer is removed from the reaction with a Microcon Concentrator (Amicon). The first-strand cDNA is then tailed with dATP and terminal deoxynucleotide transferase (Gibco/BRL). Thus, an anchor sequence is produced which is needed for PCR amplification. The second strand is synthesized from the dA-tail in PCR buffer, Taq DNA polymerase (Perkin-Elmer Cetus), an oligo-dT primer containing three adjacent restriction sites (XhoI, Sall and ClaI) at the 5' end and a primer containing just these restriction sites. This double-stranded cDNA is PCR amplified for 40 cycles with the same primers as well as a nested cDNA-specific antisense primer. The PCR products are size-separated on an ethidium bromide-agarose gel and the region of gel containing cDNA products the predicted size of missing protein-coding DNA is removed. cDNA is purified from the agarose with the Magic PCR Prep kit (Promega), restriction digested with XhoI or Sall, and ligated to a plasmid such as pBluescript SKII (Stratagene) at XhoI and EcoRV sites. This DNA is transformed into bacteria and the plasmid clones sequenced to identify the correct protein-coding inserts. Correct 5' ends are confirmed by comparing this sequence with the putatively identified homologue and overlap with the partial cDNA clone. Similar methods known in the art and/or commercial kits are used to amplify and recover 3' ends.

[132] Several quality-controlled kits are commercially available for purchase. Similar reagents and methods to those above are supplied in kit form from Gibco/BRL for both 5' and 3' RACE for recovery of full length genes. A second kit is available from Clontech which is a modification of a related technique, SLIC (single-stranded ligation to single-stranded cDNA), developed by Dumas et al., *Nucleic Acids Res.*, 19:5227-32 (1991). The major differences in procedure are that the RNA is alkaline hydrolyzed after reverse transcription and RNA ligase is used to join a restriction site-containing anchor primer to the first-strand cDNA. This obviates the necessity for the dA-tailing reaction which results in a polyT stretch that is difficult to sequence past.

[133] An alternative to generating 5' or 3' cDNA from RNA is to use cDNA library double-stranded DNA. An asymmetric PCR-amplified antisense cDNA strand is synthesized with an antisense cDNA-specific primer and a plasmid-anchored primer. These primers are removed and a symmetric PCR reaction is performed with a nested cDNA-specific antisense primer and the plasmid-anchored primer.

RNA Ligase Protocol For Generating The 5' or 3' End Sequences To Obtain Full Length Genes

[134] Once a gene of interest is identified, several methods are available for the identification of the 5' or 3' portions of the gene which may not be present in the original cDNA plasmid. These methods include, but are not limited to, filter probing, clone enrichment using specific probes and protocols similar and identical to 5' and 3' RACE. While the full length gene may be present in the library and can be identified by probing, a useful method for generating the 5' or 3' end is to use the existing sequence information from the original cDNA to generate the missing information. A method similar to 5' RACE is available for generating the missing 5' end of a desired full-length gene. (This method was published by Fromont-Racine et al., Nucleic Acids Res., 21(7):1683-1684 (1993)). Briefly, a specific RNA oligonucleotide is ligated to the 5' ends of a population of RNA presumably containing full-length gene RNA transcript and a primer set containing a primer specific to the ligated RNA oligonucleotide and a primer specific to a known sequence of the gene of interest, is used to PCR amplify the 5' portion of the desired full length gene which may then be sequenced and used to generate the full length gene. This method starts with total RNA isolated from the desired source, poly A RNA may be used but is not a prerequisite for this procedure. The RNA preparation may then be treated with phosphatase if necessary to eliminate 5' phosphate groups on degraded or damaged RNA which may interfere with the later RNA ligase step. The phosphatase if used is then inactivated and the RNA is treated with tobacco acid pyrophosphatase in order to remove the cap structure present at the 5' ends of messenger RNAs. This reaction leaves a 5' phosphate group at the 5' end of the cap cleaved RNA which can then be ligated to an RNA oligonucleotide using T4 RNA ligase. This modified RNA preparation can then be used as a template for first strand cDNA synthesis using a gene specific oligonucleotide. The first strand synthesis reaction can then be used as a template for PCR amplification of the desired 5' end using a primer specific to the ligated RNA oligonucleotide and a primer specific to the known sequence of the gene of interest. The resultant product is then sequenced and analyzed to confirm that the 5' end sequence belongs to the relevant gene.

[135] The present invention also relates to vectors or plasmids which include such DNA sequences, as well as the use of the DNA sequences. The material deposited with the ATCC (e.g., as described in columns 2 and 3 of Table 1A, and/or as set forth in Table 1B,

Table 6, or Table 7) is a mixture of cDNA clones derived from a variety of human tissue and cloned in either a plasmid vector or a phage vector, as described, for example, in Table 1A and Table 7. These deposits are referred to as "the deposits" herein. The tissues from which some of the clones were derived are listed in Table 7, and the vector in which the corresponding cDNA is contained is also indicated in Table 7. The deposited material includes cDNA clones corresponding to SEQ ID NO:X described, for example, in Table 1A and/or 1B (Clone ID NO:Z). A clone which is isolatable from the ATCC Deposits by use of a sequence listed as SEQ ID NO:X, may include the entire coding region of a human gene or in other cases such clone may include a substantial portion of the coding region of a human gene. Furthermore, although the sequence listing may in some instances list only a portion of the DNA sequence in a clone included in the ATCC Deposits, it is well within the ability of one skilled in the art to sequence the DNA included in a clone contained in the ATCC Deposits by use of a sequence (or portion thereof) described in, for example Tables 1A and/or 1B or 2, by procedures hereinafter further described, and others apparent to those skilled in the art.

[136] Also provided in Table 1A and 7 is the name of the vector which contains the cDNA clone. Each vector is routinely used in the art. The following additional information is provided for convenience.

[137] Vectors Lambda Zap (U.S. Patent Nos. 5,128,256 and 5,286,636), Uni-Zap XR (U.S. Patent Nos. 5,128, 256 and 5,286,636), Zap Express (U.S. Patent Nos. 5,128,256 and 5,286,636), pBluescript (pBS) (Short, J. M. et al., *Nucleic Acids Res.* 16:7583-7600 (1988); Altting-Mees, M. A. and Short, J. M., *Nucleic Acids Res.* 17:9494 (1989)) and pBK (Altting-Mees, M. A. et al., *Strategies* 5:58-61 (1992)) are commercially available from Stratagene Cloning Systems, Inc., 11011 N. Torrey Pines Road, La Jolla, CA, 92037. pBS contains an ampicillin resistance gene and pBK contains a neomycin resistance gene. Phagemid pBS may be excised from the Lambda Zap and Uni-Zap XR vectors, and phagemid pBK may be excised from the Zap Express vector. Both phagemids may be transformed into *E. coli* strain XL-1 Blue, also available from Stratagene.

[138] Vectors pSport1, pCMVSPORT 1.0, pCMVSPORT 2.0 and pCMVSPORT 3.0, were obtained from Life Technologies, Inc., P. O. Box 6009, Gaithersburg, MD 20897. All Sport vectors contain an ampicillin resistance gene and may be transformed into *E. coli* strain DH10B, also available from Life Technologies. See, for instance, Gruber, C. E., et al., *Focus* 15:59- (1993). Vector lafmid BA (Bento Soares, Columbia University, New York, NY) contains an ampicillin resistance gene and can be transformed into *E. coli*

strain XL-1 Blue. Vector pCR[®]2.1, which is available from Invitrogen, 1600 Faraday Avenue, Carlsbad, CA 92008, contains an ampicillin resistance gene and may be transformed into *E. coli* strain DH10B, available from Life Technologies. See, for instance, Clark, J. M., *Nuc. Acids Res.* 16:9677-9686 (1988) and Mead, D. *et al.*, *Bio/Technology* 9: (1991).

[139] The present invention also relates to the genes corresponding to SEQ ID NO:X, SEQ ID NO:Y, and/or the deposited clone (Clone ID NO:Z). The corresponding gene can be isolated in accordance with known methods using the sequence information disclosed herein. Such methods include preparing probes or primers from the disclosed sequence and identifying or amplifying the corresponding gene from appropriate sources of genomic material.

[140] Also provided in the present invention are allelic variants, orthologs, and/or species homologs. Procedures known in the art can be used to obtain full-length genes, allelic variants, splice variants, full-length coding portions, orthologs, and/or species homologs of genes corresponding to SEQ ID NO:X or the complement thereof, polypeptides encoded by genes corresponding to SEQ ID NO:X or the complement thereof, and/or the cDNA contained in Clone ID NO:Z, using information from the sequences disclosed herein or the clones deposited with the ATCC. For example, allelic variants and/or species homologs may be isolated and identified by making suitable probes or primers from the sequences provided herein and screening a suitable nucleic acid source for allelic variants and/or the desired homologue.

[141] The polypeptides of the invention can be prepared in any suitable manner. Such polypeptides include isolated naturally occurring polypeptides, recombinantly produced polypeptides, synthetically produced polypeptides, or polypeptides produced by a combination of these methods. Means for preparing such polypeptides are well understood in the art.

[142] The polypeptides may be in the form of the secreted protein, including the mature form, or may be a part of a larger protein, such as a fusion protein (see below). It is often advantageous to include an additional amino acid sequence which contains secretory or leader sequences, pro-sequences, sequences which aid in purification, such as multiple histidine residues, or an additional sequence for stability during recombinant production.

[143] The polypeptides of the present invention are preferably provided in an isolated form, and preferably are substantially purified. A recombinantly produced version of a polypeptide, including the secreted polypeptide, can be substantially purified using

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techniques described herein or otherwise known in the art, such as, for example, by the one-step method described in Smith and Johnson, Gene 67:31-40 (1988). Polypeptides of the invention also can be purified from natural, synthetic or recombinant sources using techniques described herein or otherwise known in the art, such as, for example, antibodies of the invention raised against the polypeptides of the present invention in methods which are well known in the art.

[144] The present invention provides a polynucleotide comprising, or alternatively consisting of, the nucleic acid sequence of SEQ ID NO:X, and/or the cDNA sequence contained in Clone ID NO:Z. The present invention also provides a polypeptide comprising, or alternatively, consisting of, the polypeptide sequence of SEQ ID NO:Y, a polypeptide encoded by SEQ ID NO:X or a complement thereof, a polypeptide encoded by the cDNA contained in Clone ID NO:Z, and/or the polypeptide sequence encoded by a nucleotide sequence in SEQ ID NO:B as defined in column 6 of Table 1C. Polynucleotides encoding a polypeptide comprising, or alternatively consisting of the polypeptide sequence of SEQ ID NO:Y, a polypeptide encoded by SEQ ID NO:X, a polypeptide encoded by the cDNA contained in Clone ID NO:Z, and/or a polypeptide sequence encoded by a nucleotide sequence in SEQ ID NO:B as defined in column 6 of Table 1C are also encompassed by the invention. The present invention further encompasses a polynucleotide comprising, or alternatively consisting of, the complement of the nucleic acid sequence of SEQ ID NO:X, a nucleic acid sequence encoding a polypeptide encoded by the complement of the nucleic acid sequence of SEQ ID NO:X, and/or the cDNA contained in Clone ID NO:Z.

[145] Moreover, representative examples of polynucleotides of the invention comprise, or alternatively consist of, one, two, three, four, five, six, seven, eight, nine, ten, or more of the sequences delineated in Table 1C column 6, or any combination thereof. Additional, representative examples of polynucleotides of the invention comprise, or alternatively consist of, one, two, three, four, five, six, seven, eight, nine, ten, or more of the complementary strand(s) of the sequences delineated in Table 1C column 6, or any combination thereof. In further embodiments, the above-described polynucleotides of the invention comprise, or alternatively consist of, sequences delineated in Table 1C, column 6, and have a nucleic acid sequence which is different from that of the BAC fragment having the sequence disclosed in SEQ ID NO:B (see Table 1C, column 5). In additional embodiments, the above-described polynucleotides of the invention comprise, or alternatively consist of, sequences delineated in Table 1C, column 6, and have a nucleic

acid sequence which is different from that published for the BAC clone identified as BAC ID NO:A (see Table 1C, column 4). In additional embodiments, the above-described polynucleotides of the invention comprise, or alternatively consist of, sequences delineated in Table 1C, column 6, and have a nucleic acid sequence which is different from that contained in the BAC clone identified as BAC ID NO:A (see Table 1C, column 4). Polypeptides encoded by these polynucleotides, other polynucleotides that encode these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention. Additionally, fragments and variants of the above-described polynucleotides and polypeptides are also encompassed by the invention.

[146] Further, representative examples of polynucleotides of the invention comprise, or alternatively consist of, one, two, three, four, five, six, seven, eight, nine, ten, or more of the sequences delineated in column 6 of Table 1C which correspond to the same Clone ID NO:Z (see Table 1C, column 1), or any combination thereof. Additional, representative examples of polynucleotides of the invention comprise, or alternatively consist of, one, two, three, four, five, six, seven, eight, nine, ten, or more of the complementary strand(s) of the sequences delineated in column 6 of Table 1C which correspond to the same Clone ID NO:Z (see Table 1C, column 1), or any combination thereof. In further embodiments, the above-described polynucleotides of the invention comprise, or alternatively consist of, sequences delineated in column 6 of Table 1C which correspond to the same Clone ID NO:Z (see Table 1C, column 1) and have a nucleic acid sequence which is different from that of the BAC fragment having the sequence disclosed in SEQ ID NO:B (see Table 1C, column 5). In additional embodiments, the above-described polynucleotides of the invention comprise, or alternatively consist of, sequences delineated in column 6 of Table 1C which correspond to the same Clone ID NO:Z (see Table 1C, column 1) and have a nucleic acid sequence which is different from that published for the BAC clone identified as BAC ID NO:A (see Table 1C, column 4). In additional embodiments, the above-described polynucleotides of the invention comprise, or alternatively consist of, sequences delineated in column 6 of Table 1C which correspond to the same Clone ID NO:Z (see Table 1C, column 1) and have a nucleic acid sequence which is different from that contained in the BAC clone identified as BAC ID NO:A (see Table 1C, column 4). Polypeptides encoded by these polynucleotides, other polynucleotides that encode these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention. Additionally, fragments and variants of the above-described polynucleotides and polypeptides are also encompassed by the invention.

[147] Further, representative examples of polynucleotides of the invention comprise, or alternatively consist of, one, two, three, four, five, six, seven, eight, nine, ten, or more of the sequences delineated in column 6 of Table 1C which correspond to the same contig sequence identifier SEQ ID NO:X (see Table 1C, column 2), or any combination thereof. Additional, representative examples of polynucleotides of the invention comprise, or alternatively consist of, one, two, three, four, five, six, seven, eight, nine, ten, or more of the complementary strand(s) of the sequences delineated in column 6 of Table 1C which correspond to the same contig sequence identifier SEQ ID NO:X (see Table 1C, column 2), or any combination thereof. In further embodiments, the above-described polynucleotides of the invention comprise, or alternatively consist of, sequences delineated in column 6 of Table 1C which correspond to the same contig sequence identifier SEQ ID NO:X (see Table 1C, column 2) and have a nucleic acid sequence which is different from that of the BAC fragment having the sequence disclosed in SEQ ID NO:B (see Table 1C, column 5). In additional embodiments, the above-described polynucleotides of the invention comprise, or alternatively consist of, sequences delineated in column 6 of Table 1C which correspond to the same contig sequence identifier SEQ ID NO:X (see Table 1C, column 2) and have a nucleic acid sequence which is different from that published for the BAC clone identified as BAC ID NO:A (see Table 1C, column 4). In additional embodiments, the above-described polynucleotides of the invention comprise, or alternatively consist of, sequences delineated in column 6 of Table 1C which correspond to the same contig sequence identifier SEQ ID NO:X (see Table 1C, column 2) and have a nucleic acid sequence which is different from that contained in the BAC clone identified as BAC ID NO:A (See Table 1C, column 4). Polypeptides encoded by these polynucleotides, other polynucleotides that encode these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention. Additionally, fragments and variants of the above-described polynucleotides and polypeptides are also encompassed by the invention.

[148] Moreover, representative examples of polynucleotides of the invention comprise, or alternatively consist of, one, two, three, four, five, six, seven, eight, nine, ten, or more of the sequences delineated in the same row of Table 1C column 6, or any combination thereof. Additional, representative examples of polynucleotides of the invention comprise, or alternatively consist of, one, two, three, four, five, six, seven, eight, nine, ten, or more of the complementary strand(s) of the sequences delineated in the same row of Table 1C column 6, or any combination thereof. In preferred embodiments, the polynucleotides of

the invention comprise, or alternatively consist of, one, two, three, four, five, six, seven, eight, nine, ten, or more of the complementary strand(s) of the sequences delineated in the same row of Table 1C column 6, wherein sequentially delineated sequences in the table (i.e. corresponding to those exons located closest to each other) are directly contiguous in a 5' to 3' orientation. In further embodiments, above-described polynucleotides of the invention comprise, or alternatively consist of, sequences delineated in the same row of Table 1C, column 6, and have a nucleic acid sequence which is different from that of the BAC fragment having the sequence disclosed in SEQ ID NO:B (see Table 1C, column 5). In additional embodiments, the above-described polynucleotides of the invention comprise, or alternatively consist of, sequences delineated in the same row of Table 1C, column 6, and have a nucleic acid sequence which is different from that published for the BAC clone identified as BAC ID NO:A (see Table 1C, column 4). In additional embodiments, the above-described polynucleotides of the invention comprise, or alternatively consist of, sequences delineated in the same row of Table 1C, column 6, and have a nucleic acid sequence which is different from that contained in the BAC clone identified as BAC ID NO:A (see Table 1C, column 4). Polypeptides encoded by these polynucleotides, other polynucleotides that encode these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention.

[149] In additional specific embodiments, polynucleotides of the invention comprise, or alternatively consist of, one, two, three, four, five, six, seven, eight, nine, ten, or more of the sequences delineated in column 6 of Table 1C, and the polynucleotide sequence of SEQ ID NO:X (e.g., as defined in Table 1C, column 2) or fragments or variants thereof. Polypeptides encoded by these polynucleotides, other polynucleotides that encode these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention.

[150] In additional specific embodiments, polynucleotides of the invention comprise, or alternatively consist of, one, two, three, four, five, six, seven, eight, nine, ten, or more of the sequences delineated in column 6 of Table 1C which correspond to the same Clone ID NO:Z (see Table 1C, column 1), and the polynucleotide sequence of SEQ ID NO:X (e.g., as defined in Table 1A, 1B, or 1C) or fragments or variants thereof. In preferred embodiments, the delineated sequence(s) and polynucleotide sequence of SEQ ID NO:X correspond to the same Clone ID NO:Z. Polypeptides encoded by these polynucleotides, other polynucleotides that encode these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention.

[151] In further specific embodiments, polynucleotides of the invention comprise, or alternatively consist of, one, two, three, four, five, six, seven, eight, nine, ten, or more of the sequences delineated in the same row of column 6 of Table 1C, and the polynucleotide sequence of SEQ ID NO:X (e.g., as defined in Table 1A, 1B, or 1C) or fragments or variants thereof. In preferred embodiments, the delineated sequence(s) and polynucleotide sequence of SEQ ID NO:X correspond to the same row of column 6 of Table 1C. Polypeptides encoded by these polynucleotides, other polynucleotides that encode these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention.

[152] In additional specific embodiments, polynucleotides of the invention comprise, or alternatively consist of a polynucleotide sequence in which the 3' 10 polynucleotides of one of the sequences delineated in column 6 of Table 1C and the 5' 10 polynucleotides of the sequence of SEQ ID NO:X are directly contiguous. Nucleic acids which hybridize to the complement of these 20 contiguous polynucleotides under stringent hybridization conditions or alternatively, under lower stringency conditions, are also encompassed by the invention. Polypeptides encoded by these polynucleotides and/or nucleic acids, other polynucleotides and/or nucleic acids that encode these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention. Additionally, fragments and variants of the above-described polynucleotides, nucleic acids, and polypeptides are also encompassed by the invention.

[153] In additional specific embodiments, polynucleotides of the invention comprise, or alternatively consist of, a polynucleotide sequence in which the 3' 10 polynucleotides of one of the sequences delineated in column 6 of Table 1C and the 5' 10 polynucleotides of a fragment or variant of the sequence of SEQ ID NO:X are directly contiguous. Nucleic acids which hybridize to the complement of these 20 contiguous polynucleotides under stringent hybridization conditions or alternatively, under lower stringency conditions, are also encompassed by the invention. Polypeptides encoded by these polynucleotides and/or nucleic acids, other polynucleotides and/or nucleic acids encoding these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention. Additionally, fragments and variants of the above-described polynucleotides, nucleic acids, and polypeptides are also encompassed by the invention.

[154] In specific embodiments, polynucleotides of the invention comprise, or alternatively consist of, a polynucleotide sequence in which the 3' 10 polynucleotides of the sequence of SEQ ID NO:X and the 5' 10 polynucleotides of the sequence of one of the

sequences delineated in column 6 of Table 1C are directly contiguous. Nucleic acids which hybridize to the complement of these 20 contiguous polynucleotides under stringent hybridization conditions or alternatively, under lower stringency conditions, are also encompassed by the invention. Polypeptides encoded by these polynucleotides and/or nucleic acids, other polynucleotides and/or nucleic acids encoding these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention. Additionally, fragments and variants of the above-described polynucleotides, nucleic acids, and polypeptides are also encompassed by the invention.

[155] In specific embodiments, polynucleotides of the invention comprise, or alternatively consist of, a polynucleotide sequence in which the 3' 10 polynucleotides of a fragment or variant of the sequence of SEQ ID NO:X and the 5' 10 polynucleotides of the sequence of one of the sequences delineated in column 6 of Table 1C are directly contiguous. Nucleic acids which hybridize to the complement of these 20 contiguous polynucleotides under stringent hybridization conditions or alternatively, under lower stringency conditions, are also encompassed by the invention. Polypeptides encoded by these polynucleotides and/or nucleic acids, other polynucleotides and/or nucleic acids encoding these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention. Additionally, fragments and variants of the above-described polynucleotides, nucleic acids, and polypeptides, are also encompassed by the invention.

[156] In further specific embodiments, polynucleotides of the invention comprise, or alternatively consist of, a polynucleotide sequence in which the 3' 10 polynucleotides of one of the sequences delineated in column 6 of Table 1C and the 5' 10 polynucleotides of another sequence in column 6 are directly contiguous. Nucleic acids which hybridize to the complement of these 20 contiguous polynucleotides under stringent hybridization conditions or alternatively, under lower stringency conditions, are also encompassed by the invention. Polypeptides encoded by these polynucleotides and/or nucleic acids, other polynucleotides and/or nucleic acids encoding these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention. Additionally, fragments and variants of the above-described polynucleotides, nucleic acids, and polypeptides are also encompassed by the invention.

[157] In specific embodiments, polynucleotides of the invention comprise, or alternatively consist of, a polynucleotide sequence in which the 3' 10 polynucleotides of one of the sequences delineated in column 6 of Table 1C and the 5' 10 polynucleotides of

another sequence in column 6 corresponding to the same Clone ID NO:Z (see Table 1C, column 1) are directly contiguous. Nucleic acids which hybridize to the complement of these 20 lower stringency conditions, are also encompassed by the invention. Polypeptides encoded by these polynucleotides and/or nucleic acids, other polynucleotides and/or nucleic acids encoding these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention. Additionally, fragments and variants of the above-described polynucleotides, nucleic acids, and polypeptides are also encompassed by the invention.

[158] In specific embodiments, polynucleotides of the invention comprise, or alternatively consist of, a polynucleotide sequence in which the 3' 10 polynucleotides of one sequence in column 6 corresponding to the same contig sequence identifier SEQ ID NO:X (see Table 1C, column 2) are directly contiguous. Nucleic acids which hybridize to the complement of these 20 contiguous polynucleotides under stringent hybridization conditions or alternatively, under lower stringency conditions, are also encompassed by the invention. Polypeptides encoded by these polynucleotides and/or nucleic acids, other polynucleotides and/or nucleic acids encoding these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention. Additionally, fragments and variants of the above-described polynucleotides, nucleic acids, and polypeptides are also encompassed by the invention.

[159] In specific embodiments, polynucleotides of the invention comprise, or alternatively consist of a polynucleotide sequence in which the 3' 10 polynucleotides of one of the sequences delineated in column 6 of Table 1C and the 5' 10 polynucleotides of another sequence in column 6 corresponding to the same row are directly contiguous. In preferred embodiments, the 3' 10 polynucleotides of one of the sequences delineated in column 6 of Table 1C is directly contiguous with the 5' 10 polynucleotides of the next sequential exon delineated in Table 1C, column 6. Nucleic acids which hybridize to the complement of these 20 contiguous polynucleotides under stringent hybridization conditions or alternatively, under lower stringency conditions, are also encompassed by the invention. Polypeptides encoded by these polynucleotides and/or nucleic acids, other polynucleotides and/or nucleic acids encoding these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention. Additionally, fragments and variants of the above-described polynucleotides, nucleic acids, and polypeptides are also encompassed by the invention.

[160] Many polynucleotide sequences, such as EST sequences, are publicly available and accessible through sequence databases and may have been publicly available prior to conception of the present invention. Preferably, such related polynucleotides are specifically excluded from the scope of the present invention. Accordingly, for each contig sequence (SEQ ID NO:X) listed in the fifth column of Table 1A and/or the fourth column of Table 1B, preferably excluded are one or more polynucleotides comprising a nucleotide sequence described by the general formula of a-b, where a is any integer between 1 and the final nucleotide minus 15 of SEQ ID NO:X, b is an integer of 15 to the final nucleotide of SEQ ID NO:X, where both a and b correspond to the positions of nucleotide residues shown in SEQ ID NO:X, and where b is greater than or equal to a + 14. More specifically, preferably excluded are one or more polynucleotides comprising a nucleotide sequence described by the general formula of a-b, where a and b are integers as defined in columns 4 and 5, respectively, of Table 3. In specific embodiments, the polynucleotides of the invention do not consist of at least one, two, three, four, five, ten, or more of the specific polynucleotide sequences referenced by the Genbank Accession No. as disclosed in column 6 of Table 3 (including for example, published sequence in connection with a particular BAC clone). In further embodiments, preferably excluded from the invention are the specific polynucleotide sequence(s) contained in the clones corresponding to at least one, two, three, four, five, ten, or more of the available material having the accession numbers identified in the sixth column of this Table (including for example, the actual sequence contained in an identified BAC clone). In no way is this listing meant to encompass all of the sequences which may be excluded by the general formula, it is just a representative example. All references available through these accessions are hereby incorporated by reference in their entirety.

TABLE 3

Clone ID	SEQ ID NO: X	Contig ID:	EST Disclaimer		Accession #'s
			Range of a	Range of b	
H6BSF56	11	762968	1 - 591	15 - 605	AW958287, BF027085, AV650800, AV650218, BF689895, BE409727, BE871017, BE278963, BF975253, AA449214, AA150070, BF247445, AA310756, BF337859, AA425098, BE746295, BE732859, BE742068, R48107, BF129114, AA393871, AI707816, AI523073, AW002940, BE672910, BF764476, AW827130, AA468022, AA493695, AW857950, AW275510, AW857971, BF667587, AW021735, R52299, AW965008,

				<p> AI223604, AI254279, BE179557, BG059450, AW963750, AI445674, AW979031, AV703942, AV762535, AI687343, BG249643, AA769402, AW827120, AA484373, AI345157, AV739452, AW168618, AW504900, AA467876, BF887977, AV710066, AV763354, AV762098, AI744826, BF964993, AA279421, AW302903, AW872575, AI700109, BF437493, AV764329, BE253048, AW270343, AL046205, BE782280, BF677892, AV759437, AV734583, AV760777, AV760486, BF965007, BE907585, AV764578, AW131249, BE297262, BF347740, BF337291, BF679274, AW193265, AI247199, BF347791, AV764307, AV763183, AW235497, AA747070, BF760796, AW872676, AI004704, AW002350, AI270117, AI311927, BF871137, BE883107, AL043009, AI754658, AI250083, AV760258, AW069769, AI370094, AI119691, AW063143, AI270559, AA372481, AV760937, AI119713, AW857949, BF742624, AA720702, BE736829, BF681649, AI953275, AA490183, AF330238, AW970871, AU145314, BF977376, AL138265, AV759172, AV761106, AV735614, AW953071, AA019312, AA584167, AV728425, AU121243, AV763847, AL038799, AV733830, BF965154, BG026806, AI133164, AA523841, AV763540, AV762050, AI470646, AI284640, AI307022, AA635739, AI350211, BE350772, AI691091, AI251082, AI370074, BF936005, AI305766, AI732378, AI860013, AV744393, AW974109, AW500125, AV760378, AV734666, AV764241, AL037683, AL038705, AA683238, BG023888, AK025830, AF151821, AB015724, AC004760, AC005089, AC005988, AL049766, AC005257, AI117377, AL109936, AC009311, AC007383, AC018637, AL161445, AL034545, L78833, AC005250, AC006511, AL136223, Z95115, AC006999, AC005606, AL022322, AC007011, AC007279, AC007428, AC002476, AL049795, AC016576, Z98051, AC011508, AL021393, AC006285, AC005923, AL137839, AC003101, AL121934, AC020893, AC004638, AP001753, AC007620, AC010524, AF215937, AL117332, AL022163, AC008482, AC006077, AC022432, AC011559, AL121586, AC004849, AC019215, AC005071, AL022238, AL034423, AC006275, AL354720, AC002314, Z82198, AL137780, AC005694, AC010422, AF252830, AC004686, AL121751, AC004814, AC024084, AC005280, AC007192, AC002430, AL157938, AP001680, AL031777, AL353748, AL021807, AL136131, AC002395, AL136969, AL020997, </p>
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					<p>AC005258, AC018633, AL118501, AC018720, AL135818, AC004008, AC006111, AL035462, AC002470, AC016025, AC007384, AC018712, AL136308, AL035667, AC004876, AC005020, AC002425, AL109823, AL034420, AC007216, AC004650, AC007225, AL078611, AF001549, Z69706, AP001725, AL049544, AL121892, U63630, AL499629, AC010271, AL008725, AL021939, AL445687, AF254822, AC002531, AL121601, AL022237, AC004388, AC011310, AL031311, AC005527, AL050349, Z68162, AL121903, AC007546, AC020917, AL139186, Z93241, AC015853, AC020934, AF117829, Z82190, AC022150, AL360227, AL157931, AC004980, AL121897, AC004622, Z83844, AC005288, AX039602, AP001687, AL031286, AC022027, AL117258, AC005821, AC004899, AL391839, AL356414, AP001746, Z97196, AL109921, AL031662, AC004598, AC015555, Z83845, AC008372, AL080242, AL137061, AC012309, AC004659, AC004755, AJ229043, AL137853, AC008770, AF228703, AC011477, AC020916, AC008521, AL021578, M63796, AL009181, AC006312, AC024561, AC005488, AC005274, AC006130, AP001721, AC021752, AL008712, AC004534, AC023105, AC006277, AL133282, AC005529, U63312, AC016395, AC005484, AC005531, AL033520, AC001231, AC004894, AL136137, AC073976, Z98742, AL035079, AF047825, AC002301, Z98752, AC008976, AL359695, AL035424, AC018644, U95742, Z99716, AL031650, AC010609, AC013436, AC011531, AC006501, AC006017, Z98750, AL133289, AL135901, AF317635, AL009183, AL138976, AL023284, AP000962, AF042090, AC000066, AC009481, AC022517, AC007450, AC005600, AL121952, AC007262, AL117382, AL365335, AC008886, AC020906, AF243527, AL049537, AC008088, AP000501, AC006451, AL353807, AP000555, AC008403, AC009277, AF108083, AC005081, AL078590, AC005778, and AL450226.</p>
H6EDM64	12	841331	1 - 2596	15 - 2610	<p>AL529288, AL514648, AL523579, AL523918, AL530571, AL528848, AL523917, AL523578, BE795355, BE614208, AL529287, BE797988, BE747962, BE798201, AL530750, BF689293, BE884814, BF508994, BE798313, BE613450, BE787266, AW131835, AL530749, BG248495, BE386285, BF526775, BE873469, BE299650, AL042569, BE621187, BG168950, AW410458, BE883794, BE869375, BF348689, AW239351, BE737181, BE734276, BF309636, BF129214, BG180549, AW410610, AW601905, BE621858,</p>

					AA689552, BF310547, AW960649, BF9553086, AL045821, BE882424, BF724804, BE019151, AW246108, BG179779, AW374338, AW675186, BE279317, BG011956, AI475847, AI394166, AI142042, AW068652, AI539419, AI970048, AI792316, AA536006, AW272491, BG012645, AI827847, BG254459, AI673493, AW007399, AI719374, AA994188, BG176564, AI707847, AW104963, AI220974, AA022523, BF807054, BG012634, BF803094, N24911, AW665019, AI458806, AA689495, AA480131, AI808412, N41812, W17347, BE772562, BG012642, BF807055, BE772573, BG011957, BG012641, AL514647, F22287, AI160580, AI149344, BE772556, AI870582, BE772568, AW801577, BG176616, AW801325, AW068651, AI197831, BE265961, AA483525, BE772566, BE772574, BE693737, AA687509, BE839398, BF799200, AA687451, AI201450, BF896481, BE772569, BE244158, BE772576, BE826728, AI452812, BE772561, AA317941, AA308425, AA745895, AW751437, BG256219, AA782657, BF373198, AA364848, AL039960, AA405870, AW963550, BE300303, N78953, AA112404, BE826586, AI061434, AI143698, AW087863, AI382254, AW731818, BE788591, AW304748, AI589259, AA357514, BF663656, AW673017, AW664622, AA524482, AW246627, BE831243, BE831271, BG055766, AI749023, AA380438, BF746714, BE839346, AW084279, AA113160, BF529848, AI160508, BF764174, BF752908, AA053148, AW842671, F32117, AI190107, BF752929, BE547478, AA977756, AA360528, AA022454, BF808843, BF813892, AI917965, BG011699, BG012316, BF373193, BG122581, AA622680, BF688484, BE772558, AA053706, AA733114, BG012318, AW880294, AA482098, BE256450, BE831281, BF765811, BF803085, BE243388, AA774840, AA576098, BE831236, BE772816, AF024631, AX011724, AX015345, AF096303, U73627, AF061779, AC004923, AF238378, and AC000385.
H6EEC72	13	889401	1 - 1479	15 - 1493	BF034355, BF034892, BE792423, BF338898, BG105853, BE390915, BE613966, AA449897, BE389478, AW857371, AW861388, BE891738, R71843, BF983885, BF739366, AI688525, BF591064, AI589048, AI933344, BE387873, AI660119, AI950422, BF830644, AA250941, W68171, BE613313, BE389218, AA699649, BE612723, AI553767, BG178871, BE966158, AW965656, AI807258, AW606086, W67712, N34048, AA789094, AI160489, AA953906, AA029513, AI798377, AA961141, AI191879, AI277742, BF757878, AI341511, BF941471, T79588, W39291, BF843992, BF761673, BE552032, AW938641, AI684229, AI829091, AI696662, H79702,

					AI803066, AI423727, AW081674, AW014236, AW582288, BE675078, AI760447, BE042621, AA250965, AI991516, AW438983, AW205754, AI658602, AW594379, AA449841, BF926493, AI955308, AI917867, BF063286, AA029448, AI933496, AA350855, R71793, AW578255, BE829073, BE828899, AB014591, AL133647, AF180474, and AF211967.
HACAB68	14	584773	1 - 1286	15 - 1300	BF967733, BF340072, AW058572, BE877116, BF029667, BE221318, BE042897, BF434234, BE966145, BF593609, AW966641, BE549675, AI692588, BF433926, W68167, AW674743, W67708, BG163487, AI802057, AW051536, AW005086, BE073104, AU145008, AI634647, AI743810, N51396, BE218196, AI857811, AI816124, AI802067, AI095027, BE503637, BF669349, AI925492, BE669954, AI813855, AI811403, BG236435, AA833834, BE073105, AA748470, AW975666, BE502705, N56917, AI146547, AI949209, AI492350, AI190896, BE219670, AI167132, AW013890, AI089941, AI810922, AI804940, AI689151, BF699838, AW873589, AA209320, N62725, AI420094, AI221693, BF130415, AI301467, AA808217, AW511885, BE073003, AW166094, AA019916, AI359094, BE073109, AI753256, AW675323, BF671156, AA258518, AA954483, AA324329, BF668455, F13496, AA281446, BF247796, AA487161, BF029971, AA730575, AA121642, AI123192, R49582, AI887042, AA487312, AA364288, AA385769, AW440846, R60975, AW451535, AA972339, AI091153, T74984, R36295, AW118180, R75731, BE003024, AI459209, BG055090, AW895451, H80344, AI984894, AA581815, BF877111, AW805837, BE000523, D57701, T03076, AI767454, F10499, Z40296, R43580, AA081798, R49916, BE928534, Z43703, AA493265, AA526871, AI118452, AI144481, BE540542, AL442081, AR079029, AL354793, AK001029, AF189009, AB015344, AF177346, and AF293385.
HACBJ56	15	847112	1 - 874	15 - 888	AA157001, BE348653, AW027639, AA534339, AW001883, AA363258, AW959379, T71037, AW953765, BE048583, BF878388, T67200, AW393348, AW393350, AW384705, AW386713, AA156760, AW055343, BF892732, and BE140594.
HACBS22	16	847113	1 - 3225	15 - 3239	AU124073, BG253611, AW965191, BG115564, BF032820, AW965203, BF306517, BF304908, BF306593, BF982389, BF033269, AW890326, BF983369, AI302793, BF591498, AI567467, AV711792, AA429582, AI422294, AI859789, AA433987, AA814217, AA252998, AA279301, AA411385, AI342153, BE328862, BF127455, BF223404, BE073310, AW131093, AI061457, AW886431, BF316718, AI418930, AI126382, BF334564,

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HADDE71	17	839187	1 - 653	15 - 667	<p>BE646364, BE562975, BE734905, AA227916, BE275558, BE387443, AI568587, BE387535, AW245842, BE857544, AI805978, BE386863, AA530975, AA845548, BF437434, AW627607, BE741623, BE898827, AA393921, AI201926, AI391625, AI199262, AI675180, AI123847, AA463396, AI128152, AI197839, BE791237, BE384118, AA913172, AA505110, AW408817, AI187762, AI076304, BE899199, R52594, AW009600, AA465034, AA913634, AA488109, AA885156, AA452881, AA464960, AA884143, BF340639, AI886462, AI188491, BF446332, BF221728, AA227574, R84997, BE243531, BE903843, AA424231, BF331414, AI675231, BE249813, D45528, R40380, W60397,</p>

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HADDJ13	18	827273	1 - 2304	15 - 2318	AW575129, AW022897, AA010299, AU144131, AA669573, F11929, AL138228, AA634252, T66105, AA219059, R91924,

					<p>R51726, AA856981, AA782322, AC004552, Z95118, AF224669, AC018797, AC003035, AC008636, AC009600, AC002565, AC002350, AL390738, AC073593, AC004491, AC011497, AF205588, AC007546, AC005250, AC016594, AC006038, AL031120, Z84469, AC018719, AC006080, AL391259, AL162615, AL034372, AC018639, AL132777, AC004605, AC024168, AL080275, AC004685, AL136000, Z82198, AL121578, AC013734, AL133286, AC002091, AL356575, AC007934, AC005035, AL031311, AC005840, AL117337, AL160313, AL035400, AC007225, AC005208, AC002368, AC011484, AC018637, AL035555, AL136231, AP001714, AC006211, AP000512, AP001732, AC083861, AC087095, AB023051, AC078833, AC005670, AL163267, AL080315, AC022201, AL138721, AC005529, AL136300, AL391114, AC006285, AL079342, AL031293, AC011310, U82671, U52111, AC018812, AL136365, AL356379, AC007358, AC000085, AC007151, AL445669, AL079340, AC007363, Z94056, AC006195, AL139109, AC002312, U85195, AL022164, AC005884, AC008009, AL109964, AL139092, AC010326, AC003950, AC002351, AE000658, AC009484, AL031659, AL138836, AC009247, AC004674, AC007386, AP001731, AL138832, AC007228, AL355530, AP001671, AC015853, AC073607, AL137230, AL031295, AL122125, AC018641, AL137818, AC055740, AC012599, AC015971, AP001730, AC004554, AC083874, AL035089, U91322, AL133500, AL122020, AC007011, AP001713, AL162831, AC007907, AC003029, AL033529, AF015262, AC005822, AC034242, AC008518, AC005902, AC004675, AL096862, AC005703, AL356299, AL121747, AC005722, AC020629, AC012384, AP001728, AL109939, AC000120, AJ229043, AF088219, AL023876, AC006116, AL137141, AC007057, AL158828, AL137800, AL391122, AL035454, AC006064, AC005046, AL008715, AC004253, and AP000030.</p>
HADMB15	19	847116	1 - 316	15 - 330	<p>AW136268, BG056888, AI131328, AI174443, AI091646, AW117296, AW168872, AI082447, AI432175, AI290911, AI741489, AI682685, AI142536, BG059892, AW149659, AW071935, AA233541, AI183690, BG056462, AI689641, AA599916, BF196591, BF196843, AA199743, AW136277, N77910, AA564806, AA243035, AA779709, AV722133, AI032138, AA844525, AI467910, AW965361, AA852418, AI982751, AI282445, AI982761, T03902, AI420648, AW167499, H08108, BE328548, AW068986, C15651,</p>

					D52660, AW665899, AI246702, AI538705, AI271662, AI435112, AI288692, BE466948, AI690048, D55112, AA779042, AL536118, D53747, D54101, AA486941, D53384, W07076, AA232504, AA486765, BF832290, AI038647, AW497637, BF947006, AU155428, and T05461.
HAGBQ12	20	722205	1 - 729	15 - 743	AI332690, AI374724, AI285345, AA876359, AA987498, AI702600, AI079453, AI382918, C04098, R63800, AI697895, H87363, R67068, BE673734, R73892, BF432849, R68633, R68632, R66112, H03322, AA340294, H87907, AP000350, AC007363, AC003969, AC005948, AP000360, AC004066, AC000053, AC002060, AL450169, AI033522, AP001696, AL050309, Y17293, AL138696, and AC004776.
HAGDW20	21	637489	1 - 1270	15 - 1284	AI671549, AA603387, AA614197, AC005629, AC006453, AC020898, AP001610, AC025435, and AC083863.
HAGEG10	22	823543	1 - 5670	15 - 5684	AU117844, AU118506, AU119632, AU142701, AU118316, AU119959, AU119025, BE875471, AU126076, AU137238, BG104575, AU138967, AU119281, BE880144, BE620212, BF527450, AL046250, BG029297, AU117066, AU126818, BG113544, AU128669, AW604129, BG179797, BF346364, BE694058, BE079543, AI872395, AW292851, AW170564, BE079454, AW812853, AV714888, AL042857, BG028602, BG005799, BE614073, AA523866, AW390450, BE856764, AW393917, BE676397, BF375747, AW373523, BG168417, BE874209, BG110102, AW393931, AW393924, BF340623, BE348284, AL048803, AW440289, BE896149, AW603939, AW590802, W72259, AA131497, N37081, BF880848, AA074901, AI126725, BF197419, AV720399, BE185077, AW753218, AU145052, AW935198, W58475, BE185075, BE185029, BF132321, AL048441, BE464666, AW968607, BE544412, AI872418, AU143989, AA188783, BF984545, AW166006, AU150921, AU153212, BG059577, BF001763, AI923075, AI188147, AI687738, AA429541, W58350, BF576448, AI191432, BF434307, AA687272, AW967782, D82378, AA486891, AA074726, AA770549, AI352455, BE677700, AU146166, T62894, AA019898, AI682014, AI141110, AI984576, BE091476, AU159948, AA167708, AI803035, BE220983, AI954034, AW473381, AW170305, AI888001, AV750571, AA514490, AI149197, AW022225, W95447, BF222723, AI160170, AW390442, W88638, AI159801, AA019911, W94007, AA918797, AI149526, N20405, AW022401, BF593100, AI872122, AA129509, AI123869, AI829442, AW340679, BE932213, AW665371,

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HAGEQ79	23	828055	1 - 771	15 - 785	<p>AI741487, AA779582, BE674646, AW303577, AI305251, BE219521, AI688718, AI936253, AI093754, AW341275, BE222507, AI692909, BF966664, AI493111, BF525487, AW016639, W92767, AU150022, AW341787, AI278427, BF966817, AA044775, AA910036, AI685015, AI285959, AA719683, BE645673, AW196910, AI432636, AI096735, BE618873, BE541159, H91757, AI702190, BG152855, AI244929, AI681847, BE217959, AI498036, BE467879, BE696146, AI810609, R55798, AA897359, BE464034, AA975324, F09971, W73069, AW594097, AA703815, BF224038, F10760, T72606, AA932659, H46138, AA351671, T31206, AA317283, AI867144, AI681277, AV718692, BE938093, AV718489,</p>

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HAGFS57	24	847120	1 - 860	15 - 874	BF893958, AL079477, BE221875, AL532698, AI299412, R51649, AL040440, AA339493, F12505, F05649, Z43527, F06606, R12847, BF690787, R25251, T74335, AW382934, and AB020663.
HAGHN57	25	773286	1 - 2426	15 - 2440	AL533248, AU118622, AU119331, AU133909, AU119469, AU118182, BE794468, BE791529, BG176702, BE280450, BE729801, BF663566, BF970116, BE257176, BG032912, AL516224, BG121097, BE784191, BG249033, BE727671, BE881192, BE745390, BF792305, BF037862, AV710149, BE617085, AV751361, AW291174, BG163346, AI686123, BG033409, AV762315, AV704873, BE540243, BF344980, AV707943, BF671351, BE394881, AW070780, BE538770, BF303671, BE541947, AW963773, BF303913, AW299817, BE378370, AW299807, BF107096, AW515893, AI338838, BE254836, AW402330, AA455894, AI436127, AL516223, BF001973, AI392820, W31025, W28207, BE535313, BE258523, BF109189, AA182513, BE617702, AW275883, AW674662, BG169977, BE711218, AA134574, AW304388, AA588768, BE868534, AU144819, AA455892, BF802948, BF222585, AW902162, H16095, AI034153, AU145137, AI905391, AI985354, BG011776, AW612879, BE711276, AV659416, AU150558, BE702340, BF055535, BE711244, AA652292, AW271981, AA780056, AI624858, AA319693, AA604113, AV744893, AW771218, AV742941, AA837954, T60588, AA150957, AA151047, AI991761, AI912891, AI628783, AI434787, AW072744, AA716130, BF807693, AA181782, AI554969, AA916968, AA101864, AI473865, AA362607, AW338509, AI525459, BE244147, AI928082, AI433249, BF062859, AI910904, AA285264, BE711295, AI354885, AW006732, AI950274, AU144122, AI990867, AI922170, AA115829, AA806393, BE672240, AU156842, BE243206, AI633602, W01852, BE711219, AI280611, AA707161, AA301320, BF197637, AI695111, AW966603, BF447153, F29695, BE378061, AA336840, AI424341, AA385049, AI07649, N58884, AA131117, AI205138, BF431130, BF807685, N98771, AA602492,

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HAHEA15	26	847013	1 - 1332	15 - 1346	BF683891, AW977366, AI743651, AW295805, AU144609, AI469869, AI188995, AA236904, AU117919, AI080089, N92489, BG116971, AW956038, W17171, AA872336, H96165, AA236057, BE538565, H96164, AI824681, AA736871, BF089224, R23025, BE934268, AA370017, AW891311, AI356478, AA693355, AI924051, AA766932, AA669094, AI568061, AI348901, AW020619, AI036368, AI436438, AW021717, AL049053, AV681572, BF344734, AK000965, AF072546, AK026843, AF139986, AK027210, AF126247, X98066, AB052176, AL137258, AF116617, AK024855, U62807, AF126372, AL122104, AI132433, AL050172, A40111, AB048975, and AL133029.
HAAJA47	27	534670	1 - 1223	15 - 1237	BF991208, BF743765, AW021917, T74524, T57767, AI491765, N22058, AA904275, AA228349, AI689019, AA054085, AU131834, BE256101, AW270771, AL119691, AI284543, AU118852, BE062478, AI859946, BF769528, AW873261, AW152178, AC009318, AC011811, AL023799, AL137796, AP000704, AL499628, AC007934, AC005082, AC006111, AP001711, U91323, AC002407, AL031680, AL356244, AC008526, AL132987, AP000103, AL049540, AC013434, AP000269, AK024933, AP000212, AL133211, AC008924, AL035422, AP000280, AC018719, AC005200, AC005000, AC004858, AL133163, AF045555, AC009756, AC007546, Z98044, AP000107, AC008267, AC005520, Z98050, AL121933, AC002994, AL133174, U47924, AP000031, AP000354, AL162430, AL021154, AC011449, AP000039, AC009600, AC000025, AC004526, AP000355, AL356057, AL137798, AC012085, AC004383, AC004998, AL049713, AC004253, AP000065, AP000134, AC008521, AC004477, AC022173, AL031432, AP001727, AC012351, AC011442, AC005920, AC010271, AC010636, AL009183, AL109797, AL022237, AC024078, AC004232, AC007371, AC011470, AC008753, AC005484, AF109907, AC009155, AC004882, AL109827, AC011452, AL121891, AL109804, AC011465, U63721, AC008738, Z81364, AL138878, AL050308, AL117380, AC002487, AL161659, AC008764, AC005480, AC005841, AC003070, AL022163, AI224877, Z93017, AC005220, AC004821, AC005755,

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HAJAY92	28	845601	1 - 2331	15 - 2345	AI208943.
HAJBV67	29	866415	1 - 2522	15 - 2536	BG252656, BF732416, AV713753, BE905485, BF062374, BF445098, BF110352, BG252894, BE620095, BG249923, BE867752, AW606977, BG171028, AW576585, BE868698, BF671587, AW860769, BF941584, BF986308, AW305358, BF037687, BE541890, AW958924, AW974216, BF105260, AL048954, BF434917, AA057428, AW860733, BF664978, AI040432, BF984881, BF114918, BE872774, BE349491, AW263003, BF697715, BF382321, BE938703, AI378631, BF447674, AA446149, AA044378, BG114831, BF815345, BF085497, BF815237, BF210190, AA579908, BF132467, AA437015, AW860753, AI741531, AI742016, AI963805, AV748930, AA457625, BF815346, N31845, AI927889, BF699623, AA587067, AA831367, AI038411, AA442844, AI382172, BF084350, AW993684, AW407667, BF029928, AW028681, BE327066, BF887305, AV695738, BE222425, AV696527, BF755168, BE876090, BE167030, AI768063, BE000825, H12700, AV708152, AW001069, H03274, BF063098, BE933732, BF815719, BF594797, AW974217, N93209, N23944, AI290752, BF802746, AA557778, AA604449, Z32781, BE004621, AA910221, AA226865, R78864, BF326913, BG179582, AI370350, BE719765,

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HAJCH70	30	827275	1 - 2168	15 - 2182	AL031294, AP001101, AC007677, AP001759, AC006038, AC009430, AL139824, AC007344, AC005939, AC007225, AL009177, AC002538, AF108083, AL031686, AC005486, AL109622, and AL139343.
HAOAG15	31	852204	1 - 5129	15 - 5143	BE349027, AA460958, AA460959, AI291926, AA461266, N58870, N72734, AI277327, AA461265, H43656, BF927468, H44722, BE835623, BE835624, Z33537, AI903814, BF366858, AW968357, AA465480, AA485068, AA430219, AF112345, AF074015, and AF172723.
HAQAI92	32	688037	1 - 593	15 - 607	AL522436, AL524148, AA513002, AI735602, AA772397, AW014080, AI799589, AI818675, BE617237, AA478326, AI217776,

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HAQCE11	33	633730	1 - 582	15 - 596	N45328, H29603, FI0900, AW949645, D80045, AW965158, AW949642, AV738340, AV742732, AV724520, AW949643, AV741220, AW964468, AW966389, AV718489, AW966330, AV699550, D58283, AV718692, AW975618, AV742048, AW978634, D81030, AV718844, AW959570, AV720203, D80043, D59619, D80195, D80210, D80240, D51423, D51799, D80391, D80253, AV719822, D80227, AV719324, AV719783, AV718800, AW966531, D80188, AV720211, AV720464, AV718770, AV720731, D80219, AV699447, AV722801, D80196, AV723927, AV699927, C14429, D59927, D80038, D80212, D80193, D80022, AV719468, AW949632, F13647, AW949641, D80366, D59889, AV700889, AV720812, AV721386, AV723097, AW973447, AW949656, C15076, AW949629, AW966062, D59275, AW966053, AW964532, AV701335, AV742001, AV701043, AV701332, AV701017, AV701248, AW959628, AV701431, AW949653, D80378, T03269, AW949633, AW949658, C75259, AV744690, D50995, AW949657, AV719188, AV719557, AW949631, AV742667, AV701125, AV701166, AV700229, AV699746, C14014, AW973307, AW975621, AV702035, D80134, AW949646, AV701419, AV699947, AV701154, D80164, AW959582, AV701443, AV744012, AV720028, D59502, D81026, AV719628, AV718707, D80166, AW966534, AV701130, AV701149, AV701422, D59859, D80268, AV718440, AW965177, AV741221, AW949618, AV645344, D51250, D80269, AW960553, AW966054, D80168, D59467, AV701428, D80949, AV701415, AV701344, AV719000, D59787, AV745080, AV645389, D80522, AV681510, AV681491, AV701021, AV645343, AW959202, AW960414, AV681505, AV681504, AW949654, AV721784, AW973541, AW966013, AV720654, D58253, AW966041, AV719913, AV718674, AV705134, C14227, AW959597, AW964737, C14331, AV720791, AV701004, AW978661, AW973470, D50979, AW966050, AW752082, AV720220, AV700622, AV699669, D80024, AV743601, AV681529, AW966043, AV704180, AV705869, AV706229, AV701224, AW949655, AV719049, AV701330, AV681468, AV720607, AW960465, AW973334, AW964488, AV681474, AV741012, D57483,

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HATBI94	34	839468	1 - 1366	15 - 1380	AW966285, AV720255, AW293337, AV725342, AA297446, AA729088, AA296991, and AA334584.
HATCB45	35	631172	1 - 889	15 - 903	AV703043, W80623, AW137678, AW070465, AI922560, BF432932, BE348452, BF941632, BF475288, BE675766, AW003656, BF110027, AI768642, AW470985, AA708150, BE048489, AI689677, AI373102, BE540247, BF063606, AI635762, BE501611, AI587410, AI767805, BE929680, R44963, W78741, AI266349, AI187875, AL533462, AI762852, R19308, R27786, R27875, C01853, AA492441, D63024, AI796430, AA167435, BE669639, BE464050, AI67436, BF110272, BG150184, AC009307, and AC006501.
HATCD80	36	826098	1 - 1795	15 - 1809	AW936395, AA382841, and BF380111.
HATICI03	37	580805	1 - 920	15 - 934	BF802634, AA744060, AW270385, BF804385, AI696854, AW963489, AA700943, AA583394, AI537407, AI453210, AW571963, AW976024, BF530611, AW468372, AA747757, AA225406, AW958962, BE169870, AW855803, AI554471, BF914416, AA687730, AA559219, AA586667, AW272294, AL137119, AJ007690, AC002369, AC002300, AC010494, Z95114, AL135927, AC007227, AC005837, AC004867, AL161731, AC004821, AC011450, AL445248, AC005015, AC004166, AL035587, AL049872, AC025594, AP001760, AC005080, AP001711, AP002028, U07562, AC020908, AC007011, AL354696, AL450224, AL137802, Z97876, AL163279, AC005098, AC004859, AC004815, AL442167, AC005000, AC011455, AL049538, AL137039, AC009276, AC026432, AF168787, AC005899, AP000208, AP000130, AC009244, AL132639, AC002395, AL138787, AF207550, AL139353, AL049795, AC005067, AC005215, AC004967, AC018758, AC005378, Z98941, AC020552, AC002426, AC007057, AL450226, AC074331, AC007685, Z82190, AC005972, AF134726, AC004755, AC083874, AC007488, AC003101, AC004832, Z69710, AC007383, AK023134, AC006088, AC005919, AC006538, AC011495, AL353748, AJ251973, AC007842, AL161937, AL163285, AC004098, AP000096, AC024239, AC068999, AJ009616, AL136170, AL049830, U73643, AC004836, AL356057, J00083, AF064861, AL121891, Z82215, U91323, AC004531, AC067968, Z85986, Z85987, AC007263, AC005412, AL121583, AP000240, AC011811, AC006388, Z82901, AC002316, U80017, AF051976, AC006251, AF228703, AL049646, AC005746, AC005933,

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HATEH20	38	836056	1 - 836	15 - 850	AW978851, AI686323, AI767653, AV747166, AA829515, BF512171, AA034240, AA053933, AA737691, AA533167, AW261869, AA835698, AA447216, AI623248, W92607, AA835700, Z21891, AA599963, AW893940, W95232, T20153, T20152, R57454, AC006207, and AB020865.
HBAGD86	39	838799	1 - 1699	15 - 1713	AI658681, BE466145, AI806836, AI653272, AA004211, BE302094, BF970406, BE018485, AA418617, AA594901, AI580148, BF589715, AI804211, AI669907, AI342168, AI810310, AA506350, AW022528, H10330, AA721162, AA452114, W03931, AW953290, AI262137, R61309, AA680147, N62384, H10331, AI264925, AA765972, BF086698, AW275301, AA485210, C15277, N79353, AA350799, AI867727, AI474438, AI129224, AA093047, D60782, AI535847, AA897480, AA350798, AV714899, AW956763, and AV728867.
HBCJL35	40	130078 5	1 - 706	15 - 720	AW167360, AI678459, AI817750, AI559589, AA909847, AA101311, AA868436, Z44341, AW661978, BE974135, T71507, D51829, BF109466, AI267409, BE246888, BF803712, BE247681, AA825376, BF795799, and AB007930.
HBDAB91	41	789532	1 - 673	15 - 687	AI167963, AW081006, AA782398, N75825, AW195519, BE858969, AI701657, R45349, R23362, AI468816, BE043035, W07319, AW858522, AW577199, AL135012, BE927373, AW601637, BF084778, AL134110, AL134524, AW577201,

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HBDAB91	42	864374	1 - 993	15 - 1007	AI167963, AA782398, BE043035, AW081006, W07319, R23362, N75825, AW195519, BE858969, AI701657, R45349, AI468816, AW858522, AW577199, AL135012, BE927373, AW601637, BF084778, AL134110, AL134524, AW577201, AL045327, AL045494, AL042523, AW577192, AL045328, BF910726, and AL042420.
HGBGC29	43	691473	1 - 1842	15 - 1856	BF223021, BF036281, AI341667, AA180986, AU153625, AU151704, AI093197, BE855464, BE018834, BE616741, BF684563, AI694268, AA031711, AI469856, N63041, N50125, AI150599, AI597740, AI985206, AI671591, W72535, BF431270, AI741942, AA037642, AA180865, AA031648, AA436065, AI800796, AA129939, BF056140, AW002265, AU157670, AI074205, AA830493, BF063800, AI056532, AI656721, W00519, AI275143, AI377739, AW172525, AA443349, AA043021, AA446926, AI655558, AI769027, AA101851, AA917703, W93307, AA526333, AI689128, AA777090, AW002829, BE295568, AW139517, AI128702, AI276137, AW801873, AA873711, AW892754, N98234, W76109, AI631104, AA856832, W92810, AA042939, H87505, AA129938, AI688779, AA693329, AI676108, T87624, AA570072, AA037641, AI186390, AW515672, AA031685, AA037500, R82703, AA037234, AW380430, AA985191, AU131994, BE302396, H87506, AA938640, AI926907, AU118291, AI696069, T74071, AA102060, AW057528, AI671894, AI962374, AI695458, AA046964, BE869607, BF814627, F12449, AA725452, AI968837, AA917824, AA054749, BF437316, F10070, AA917678, BE218382, BE669660, AI916503, AW612381, AA683581, AI984598, AA937814, AI932475, AA046963, AA053281, AI801723, BE858841, AI499751, AA031686, AI074981, AI341558, AI478279, BF735972, AR074859, AK001006, AF038662, AB024436, AF022367, AF158746, and AF142672.
HBGNC72	44	892131	1 - 788	15 - 802	AL526130, AL524570, AW003889, AI935768, AW440485, AI936267, AA713525, AW272919, AI796977, AI951842, AW014081, AI760160, BF941209, AI263194, BF475772, AA496533, AW514179, AA724851, AA496454, AI799782, BF589971, AA496526, BE646016, BE563432, H41355, AW264331, AA515579, AI582716, AI581108, AI208124, AA927044, AI695535, AI638313, BG170255, AI147521, AA199585, AW264237, AW248758, and AB033019.
HBHAA05	45	603174	1 - 676	15 - 690	AI572680, AW631267, BF970107, AA632355, AI433952, AI753969, AA629668, AA493546, AU158457, BF589864, AL044966,

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HBHAA81	46	846465	1 - 1633	15 - 1647	AL138080, AL138081, BG056111, AW117532, AI885223, BF724275, AW051808, AI332809, AI564820, N63569, AW207494, AI866785, AW148811, AI954565, AI199326, AI199105, N38888, AI243422, H09138, AI986175, AW381536, Z25110, AI991904, Z18300, F31192, Z28916, AW381528, Z41646, AI954371, N38887, AI033629, Z28784, AW381480, N94825, F25740, F00372, AW380848, F16581, AW381481, AA197180, AW104762, BF887537, AB042554, AB032999, and AC006059.
HBIAA59	47	806303	1 - 2378	15 - 2392	BG261283, BG029024, AV723100, AV696216, BE931161, BF673030, AV722640, N31939, AI924550, W30681, BF853977, W93554, AV695121, AI693957, AI418000, AI679157, AI271461, AI143084, AI418010, AI186193, BF809099, BF378856, AI199165, AA809478, AI159998, AW250204, AA808416, AW952282, AA593302, AI034450, AI185975, BE677163, AI086931, AI004945, AA776377, N76113, AA588747, AI095797, W68483, AW243597, AA595636, N68971, AA037099, W77975, W48846, AI079380, AI300827, W56274, AI679162, AI168786, AW105640, W92339, BE151400, AI142671, AA573184, W32053, W05603, W88988, W26295, AW263199, W56352, AW263182, AI346401, T68085, AW665393, N99254, M62046, AI284385, N42776, AA443625, BF476230, W46568, W58618, AW189940, AV685659, AA004754, AA779109, BE185831, AI880425, W46651, BF837568, AI081101, N42802, W89081, AI085087, W73911, BE832538, W68301, R67716, BF081619, W92217, T67937,

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HBIAC29	48	831751	1 - 1768	15 - 1782	BE792362, AU119261, AU117435, AU135719, AL522995, AL523062, AV725708, BG257393, AI033807, AL524959, BG258772, BE005784, BF105898, AW157169, AV695633, AI707987, BF965323, BF794704, BG112387, AA877792, AV697750, AU145651, BE268042, AA001404, AI401215, BE568337, AI812036, AW161740, AA428415, AW182986, AI275437, AW160483, AA678033, AI051135, N40528, AI864046, AI292230, BF670616, AA586803, BE564896, AW294845, AA134820, BF245314, AA768585, BF680744, AI816108, AW163143, BF219379, AW161133, AA506157, AA492248, AI298933, AA594861, AA013286, BE673778, AI421629, AA018334, AA905534, AI684501, AA427401, AA082812, BE768733, AA287601, AW157614, BE768540, D79434, BF946436, AI658777, BF541249, AV696430, AA287752, H98178, BF540910, D79454, D79495, AA018335, AV692094, R11115, H98502, BE768718, D79471, BE768713, AV692366, AV694591, AA808656, BE768500, D62307, R84940, AA037183, AA804276, D79442, AA284650, T93079, N46576, D62351, D62288, AV696341, AW440057, D62360, AW163531, AI057422, D79425, R11059, AA359531, AU156237, W27841, AA013043, AA323139, BF219327, AI991658, D79500, AW613472, BE768582, D61951, T93170, AL524958, BE544935, D62369, AV657638, D62200, AI702248, BF948281, AA134819, D62264, D79447, AV656951, D79470, BE043970, D62243, AA934540, N67412, AW118285, AA483825, D62298, AI911842, AI033466, R31032, X93846, D79508, AI371542, R31522, D79465, AW590942, AW466905, AA180979, AA059251, AI689493, AW661808, AW006273, D63025, AW449881, AI866210, AA059003, N71916, AA381297, AW873906, AW590669, N55843, D79405, AW169134,

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HBICW51	49	553630	1 - 605	15 - 619	AW976674, AW977839, BE046511, AI143906, AA837255, AA743668, AW768572, AA699707, AA848026, AA805369, AA765722, AA813921, AW299915, BF229206, AA291129, and BF754240.
HBJAB02	50	837309	1 - 1679	15 - 1693	AL529646, AL529645, BE898304, BG112747, BF791411, BG036058, BE392384, BE621757, BE548173, BE895853, BG034671, AA808894, BE901085, BE278873, AW152607, BE795658, AW166898, BG122141, BE782474, BF972826, BE793716, BE140314, AW750993, AA826362, AW517942, BE714673, T59668, BE731030, BF939314, BE732766, BE745104, AI290469, BF477770, AI805651, AI961329, AA581089, BE902575, AW197375, AA974066, AI950259, BF802171, W27729, AV693783, AA877530, AA715365, AI968889, AA885542, AA160748, AA386371, AA335719, BF873961, W73105, BF223151, BE740826, AL120854, BE548914, AA318192, AA501478, BF125073, AI948815, AA581100, AA658457, AI621069, T59802, AA468534, AA503715, BF850755, AW956069, AW841506, AI144504, AA352215, BE897964, BF883404, BF373009, BE090290, BE168997, AW855521, AW820855, BG230749, BF376598, BE622839, AV699089, AV647789, AI567702, AV726156, AW961037, AW411235, AV726058, AW020397, AV706279, AV702427, AV651955, AV702026, BE393551, AV727787, AV660608, AV687176, AW021717, AV698545, AV687909, AV709256, AV708438, AV656903, AV661704, AV696106, AV697196, AW409775, AW951263, AV689111, AV655280, AV728157, AV692345, AV659322, AV654908, AV656478, AV708893, AV709314, AV708381, AV660728, BG168549, AV659536, AV691080, AV706219, AV695545, AV652001, AV705159, AV648263, AV703169, AV728518, AV707541, AW952409, AV709660, AV726624, AV706854, AV729220, AV709604, AV687035, AV696866, AV728997, AV704955, AV726816, AV725920, AV652156, AV701707, AV656283, AV704234, AV708025, AV707933, AV684604, AV729378, AV708980, AV692691, AV701914, AV708723, AV702516, AV693523, AV709407, AV705693, AV708992, AV729263, AV726103, AV708704, AV727029,

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HBJAC65	51	679337	1 - 1671	15 - 1685	AI417383, AI686713, AI160452, AI872233, AI498237, AI689407, AI951206, AI689049, AI813616, AI914733, AI126259, AI570910, BG058668, AA770134, AI200474, AA535854, AW001321, AA009972, AI273432, AI752734, AA988072, AI674212, AA430216, AU158825, AI002393, AI302749, AA995633, BE966464, AA977289, W44812, AI932904, N93385, AI752735, AA113797, AI874369, N69363, N92467, AA996269, BE265130, AI474494, BF035188, R88141, R80073, AI219557, AA506148, H44571, H94316, AU155680, AA777180, R70346, AA009971, BG178595, AL121004, H24825, R70355, H47474, R62804, AA913628, R88224, W16593, AI383099, W47417, R48314, H26367, H44572, R46305, W39471, H75788, R70406, AI264507, AA042907, H43874, R70196, R47924, H47382, H22169, H75789, BG112533, H44426, R88147, H27754, R53212, R70195, T86435, R50544, R70345, R53218, AA632870, H28249, R53113, R32547, R62854, H67939, AA360945, T48802, AA114114, H28203, R53120, T48801, H27813, R50641, W47612, H24778, R75693, R69429, D52428, BG058732, R79974, AA042919, AA011039, W25404, R62658, AI972217, AA011106, AA742855, R62609, T86524, BF035213, R48420, AA316324, BE895207, H22218, H67894, AW518725, R48032, AA330127, AL047709, AA374074, AA329547, AA063576, AI672904, AI751274, T27614, R49794, D55055, AW450106, AA371687, AW069622, AI620814, BG151520, BF034863, D55092, AI683440, BF315977, AA369645, BF971926, AI984491, AA903549, AI352377, R49836, AI189413, AA853576, AI087023, AI143136, AW080595, AA401138, AI918382, BE208049, BE550222, AI149988, AA977422, AI928916, AU144386, AA399657, AI367579, AA897393, AA035706, AI002109, AI587237, AU147867, AA553831, AA833926, AW081821, AI139122, AU155092, AA496997, AI610595, AI701956, AI811966, AI254230, AW009778, AA157840, AI283337,

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HBJBM12	52	560606	1 - 1121	15 - 1135	AA722101, and R18111.
HBJCR46	53	815649	1 - 3194	15 - 3208	BF980168, BF001800, BF221545, BE180558, BG117357, BG165887, BE747286, BE867206, BE559905, BF029089, BE884542, BE180560, BE882087, BF672818, BE180608, BG255311, BF695020, AI765879, AV701340, AI832097, AV701354, BG164080, BE568492, BF979546, BE268392, BE180559, AI927915, AI675415, BF195785, BF662916, BE673547, AI086866, AI956035, BF671543, AU146956, AA479515, BF063974, W19888, AW992096, BE504075, AW069858, AW992159, AA626631, BE019647, BE221636, AA479513, BF575729, AU144777, AA973047, AA936602, BF671187, BE545703, AV701112, AU144811, AU160319, AI472144, AI263407, BE019684, AU118130, AW614133, AI954073, AI767153, BF445898, AW087744, AI913738, BE397963, AI628089, AI675273, AA447852, AI635143, AW129685, AI287605, AA486193, W00613, AW135604, AI754985, AI334344, BF062454, AW119185, AW576204, BE041839, N54388, BF354864, AI275063, BE175440, AA883965, AI554276, AI082201, BE178001, AW771023, AI274243, AW337565, AA150018, BE175441, AW771580, AA447700, AW052155, AW771203, AA085991, AA085621, AI954014, AW068250, BF725222, AA486299, BF087209, BF834780, AA971016, AW854246, AA150083, H08089, BF735392, BE180609, AV683146, AA677738, AI220075, AV701437, AA740363, AA909807, H71626, R61225, N49411, AV689665, C05160, AA888983, AI026772, AV692963, AW580238, AI816858, AA340276, BE180555, AW862217, R61226, H82142, AW068158, H08090, BF997557, AW862230,

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HBJDS79	54	813588	1 - 2311	15 - 2325	BE531135, BE614809, BF982395, BG122680, BE615130, BF968072, AV706034, AI222785, BE539326, AI598156, AA131643, AA626884, AI571234, BF036649, BE743394, BE542106, AA770214, AA203111, AI608599, BF035790, BE276209, BG253824, AA436283, AI094146, AI085480, BE223034, AA577314, BE615635, AA436157, AI338243, AW081389, AI224507, BE742762, BE616645, BE879846, AA131533, AA631769, AI348255, AI870284, AI278842, AA971726, AI369248, AA934527, AI274146, AA279453, AA021050, R63988, AW952487, AI869674, BG056655, R78856, BF111769, BG056718, BG056695, BE255966, BE018968, AA551934, AA284976, AA678694, AI202603, AI097586, AW151699, N64789, AW135978, AA471054, AA742282, AI340009, AW873159, AI301870, BE206676, AA730072, AI278735, N22046, N52849, AA324335, BE774969, AA707878, AA312623, AI206104, AA922420, AI081594, AI203119, BE717107, AA770407, AW675278, AI263743, AA291551, AA298598, N76200, H95836, BE770889, AA962696, T15486, N80747, H30520, BE673804, AI520678, AI918182, AA283618, R17600, AI474363, BF806759, AA939087, AI242964, R69061, AA532553, BE770975, BG055182, C03365, T46915, BG029466, R23915, D25896, AA872629, AW860570, AA323822, AW860432, BG011166, AW860428, AA551996, BF898533, BE161547, AW131992, AW862507, AW860442, BF769056, AA551781,

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HBJDW56	55	520401	1 - 623	15 - 637	AC005532, AL031319, and AL354933.
HBJEL16	56	847030	1 - 736	15 - 750	A1279501, BE867835, AL528252, AA569392, AW856935, AA071326, AA587712, AA258409, A1341817, BE898008, BE696253, AW576885, AA837880, AW576895, A1584147, AL525748, AW383278, AA071368, BF330803, AW383120, A1393286, AL513864, C00710, AW857093, AA644480, AL528253, AW499908, BF326342, AW749039, BF771813, A1193585, AW383268, BG031591, AL040224, AW383242, BE904616, AW751656,

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HBJFK45	57	531919	1 - 529	15 - 543	AA714560.
HBJIG20	58	866159	1 - 623	15 - 637	AI114569, AI174851, AL538129, BE890567, AL525022, BE877813, BE880157, AV725294, AI133486, AV725311, AI174902, AI114699, AI111183, AA639334, AI114553, AV702695, AI133672, BE880648, AI147501, AI133302, AV706307, BE880425, BE873842, AL048390, BE877322, AV706023, BE879304, AI749163, BE881359, AV715862, AA642199, AI14736, AV713805, AV727892, BE881076, AI750078, AV752193, AI133348, AV709557, BE872112, AV763516, BE877234, AV703758, AV715160, BE876719, AL037681, AV701396, BE879580, BE880140, BE875398, AA583348, AV711558, AI196384, AA723026, BE876143, AV723395, AV706568, BE879909, AV707919, BE875361, AI279442, AA736456, BE876043, AI133323, AV705912, BE877386, BE879135, BE875253, BE872677, AV710081, BE880711, BE877647, BE881218, AV763759, BE875792, BE876085, BE873841, BE873343, AV702923, AA640938, BE875858, AI207615, AV705995, BE879968, BE874846, AV704327, AI721239, AI609232, AV716218, AA737196, BE877268, AA929066, AV709305, BE876531, BE875412, BE879974, AV708006, BE881478, BE880128, BE881645, BE878122, BE880497, BE874647, BE877686, AV700257, AI720842, AI720161, BE874823, BE874885, BE892487, BE875889, AL513828, BE891700, BE878894, BE879695, BE898937, AV723029, AV717787, BE867307, AI833114, AV706277, BE891387, BE878086, AV729201, AI709043, BE881222, BE877757, BE877150, BE876704, AV710239, BE870155, BE880602, BE876425, AI814650, BE881146, BE878626, BE878178, AI750175, BE875408, AV717612, AI833042, BE880690, AV711143, BE878330, AI720252, BE897096, AV726346, BE874215, BE877004, BE874734, AL038791, BE879775, BE870577, BE880762, BE876080, BE879410, AV716025, AA736459, BE874520, AW027357, AI832465, AW081665, BE877131, BE877496, BE876651, AV648404, BE877242, AA195996, BE873478, AV729465, AI985879, AA652417, BE874662, BE896548, AA574324, BE890719, BE875038, AV728251, AV706779, BE874747, BE875536, BE877390, AI832606, BE898560, BE873954, BE880948, BE875601, AV759353, AV710539, AI766340, AV705883, AI832709,

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HBKJD16	59	853358	1 - 1615	15 - 1629	BG259133, BG258754, BE895955, BE535182, AU119776, BE296370, AW361272, AA205862, BE079707, AI743764, BF669591, BF102652, AA768863, AA767455, AA683506, BF374311, W39021, AA583062, W94893, BE737722, AI128320, AA703242, AA402965, H12229, AA027163, AI338954, W92057, AA769377, AA811137, AW470052, AA027162, AV713020, AI680487, R19758, AA283191, AA531492, AI700367, BF946853, AW514119, AA644413, AI004120, AW876599, BE868122, AI831977, AI219655, AA197283, H17722, AA890197, N70828, AA164346, AV750338, BF791719, AA164345, AA767095, AA393969, AA765421, H17611, BF247968, AI254347, AA253013, AA534905, AA470446, AA182675, H12230, H43795, T32973, AW386765, AU146033, AA078964, R51414, AI269757, T33350, R45177, AI203452, Z44609, AI041094, AV749975, H43709, BF336945, AI268058, T30703, R85203, R51302, R51996, BE738484, W84649, R51995, AA824604, W01425, AA907096, BF801374, BE544754, AI469616, AU156273, AW297202, T83337, H14279, BE929477, AA252973, BE242053, T18899, AA248529, H14306, BE698663, T33352, BG059012, AA361817, AA236020, AA810717, BE243263, AA876139, BF240162, BF893858, BE217859, F13420, H53830, F08935, AA078866, AV727864, AA721692, Z40480, AI383780, H52715, H48241, AW751348, T83485, AI567913, AI247225, BE694869, BE940539, BE713625, BF858355, BF801742, BF824816, BE713728, BE713771, BE713469, AA463921, C01352, AW608887, BE714022,

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HBMBM96	60	561935	1 - 1062	15 - 1076	AI888795, AA047754, AI561027, BF676343, AA047704, AI187148, AA314069, AA536040, AW976024, AA704393, AI754653, BE973547, AV762633, BF857849, BE897079, AU144320, BF681619, AV757032, AW972919, AW819125, AW151824, AV763457, BF854308, AI306232, AI251576, AA904211, BF589788, AA812058, BE245576, AL042667, AL042670, AI521525, AI891080, AW961593, AI583466, AW274191, BE878926, AW020150, AI459904, T74524, AI280266, AI459943, AA653139, AW572721, F16345, AV729669, AA515728, BF805088, BE350953, AI601229, AA297802, AA747757, AA297145, AI926102, AA629540, AI436433, AI679221, AA084609, BF724838, AW270385, AA164955, H59737, BG029528, AI473995, AI340641, AW504667, AW969831, AA805049, AI858691, AI749893, H07953, AC000057, AC011484, AC005920, AC005225, AC006011, AC006126, AC005837, AL031658, AL109825, U85195, AC005940, AE000658, AL109804, AL049766, AC004089, AC002352, AC005015, AC004797, Z93930, AC009756, AP001711, AL035422, AC005519, AC008403, AL109935, AC004878, AC005696, AL159977, AP001725, AL121983, AC005907, AC009060, AL353807, AF111169, AC005231, AL049760, AP000547, AC002425, AC005544, AC011442, AL031228, AC004526, AF243527, AC005081, AL035681, AC005291, AF196972, AC004019, AC020550, AC003982, AL034423, AL031311, AC000025, AC007664, Z93241, AC009032, AC005944, AC002039, AC003690, AC005756, AF196779, AC008760, AC008265, AJ295844, AC004150, Z99716, AC022392, AC005399, AL353194, AC011895, AC027319, AF168787, AC002470, U91326, AC011479, AC005098, AF228703, AC003104, AC006013, AC010422, AC008569, AL158830, AL118520, Z83845, AC024075, AC007536, AC005332, AL117348, AC004686, AC010677, AC018720, AC006211, AC008745, AL445435, AC004383, U91321, AC004971, AF001549, AC007225, AL162615, AC010271, AC020906, AC010748, AL139396, AC006121, AP001727, AC020934, AC011445, AL096701, AP000045, AL031597, AL024508, AC007690, AP001747, AC011495, AP000300, AC020913, AC002549, AC006536, AC005821, AC004893,

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HBMBX01	61	705047	1 - 1638	15 - 1652	AW961140, AV653628, AA284390, AW298801, AA325985, R05810, AV647470, AV647506, AV646943, AV646939, BE079602, AI435248, T91124, BE079603, AI217083, R05895, R05360, T84795, AA903614, AA604495, AA654849, AA002218, AA292719, and AC004236.
HBMTM11	62	589515	1 - 1625	15 - 1639	AU117599, AU133725, BF329048, AU135386, BF215887, AU134241, AL134928, AU144387, AA551031, BG254665, AW961387, AU151757, BG251511, AA713483, N22769, BE675412, N34769, AA166919, AI890079, AI361889, AA668981, AI209020, AV651304, AI588918, AV651702, AI240990, AV651711, AV651263, AW664145, AV650032, AI200221, AA741144, AA490899, AA830016, AW589574, W96201, BF028879, AV650101, N76715, BE816932, N76708, H95025, AI886459, BE090531, AU155873, H04255, AA628554, W96170, AW243986, AA557749, AA770526, R68746, AV651888, R68691, H02957, AA328145, BE816925, AV655159,

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HBMTX26	63	695704	1 - 1294	15 - 1308	AW861714, AV720211, AW973541, AV719822, AW975623, AI061313, BE138594, AW973992, AA833875, AA833896, BG236628, AV756491, AA468505, BE139267, AA284247, AA644090, BE062478, AI733856, AW502873, BE139358, AW410409, AV760508, AI216990, AW237905, AL079734, AW855643, AI753672, AI076228, AW502237, AI755202, AW963463, BF725844, AV700760, AA420546, AI066646, AW970896, AA502991, AA610509, AI912401, AW505253, BE062476, AV758870, AI754653, AW328331, AI284543, AI675615, BF923365, AV718487, AV720729, BE178481, AI625604, BF526964, BE139139, AI250552, AA535216, AL135377, AI053696, AA632744, AI887235, AI251034, AW851816, AA595499, AW243793, AI254779, AW327624, AW271977, BE968744, AA837035, N23913, AI345695, AA693484, AW023111, AI251284, AI251203, AI440117, AV734149, H07953, AA593537, AV720616, AV754716, AW845366, AV719632, AA856961, AA524616, AW301771, T05118, AW328000, BG000961, AI362442, T74524, AA704393, AI753113, AW275432, AV699480, BF725761, AA630854, AI003611, AL138759, AF205588, AC006120, AL132671, AC002289, Z82899, AI133247, AL117337, AL121835, AL049697, AP001671, AF235098, AC004002, AL160231, AF095725, AP001728, AL359272, AL031176, AL049874, AC007488, AC005741, AL022151, AC000120, AC005534, AL031673, AC018769, AP002534, AC018719, AL049778, U52111, AC008482, AC008929, AC006115, AC003013, AL157951, AL354696, AC008602, AP001678, AL022400, AC024581, AC003667, AC008462, AC006440, AP001712, AC004492, AC002994, AF109076, AL360078, AP002533, Z83843, AL022146, AL359846, AC008498, AL137013, AP000517, AL049765, AP001669, AL136101, AL136297, AJ271735, AC048352, AC006010, AC002302, AL157827, AC003966, AL355838, AC006313, AC007335, AP001412, AC003035, AL121901, AL136972, AL354811,

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HBMTY48	64	637521	1 - 1877	15 - 1891

				AI345695, BE069494, AA614010, AW302909, AV712414, AW979093, AA508036, AU152964, AW955984, AI017251, AA501614, AW265138, AI708009, AW021774, AI457597, BF526964, AV763583, AI433247, BG057491, AV763026, AV763058, BF796375, AA528480, AK026888, AC009314, AC013429, AC011442, AC008102, AL353748, AL133545, AJ295844, Z99714, AC003046, Z69714, AL354864, AL135744, AC010267, AC007263, AL161670, U96629, AP001630, AC011895, AF148461, AL121936, AC010422, Z82205, AF196779, AC011742, AP001748, AC011479, AC006285, AL137129, AC013434, AC004971, AL136162, AC026162, AC018816, AL035072, AC007055, AC006115, AC024571, AC004983, AL355497, AC015541, AF053356, AL158830, AC008155, AC005523, AL031726, AL022163, AL096701, AL158824, AF254822, AL354696, AL139123, AF109907, AL356379, Z99128, AC018738, AF178081, AC010311, AC027319, AL121586, AC007537, AC008745, AC006166, AP000248, AC007688, Z86090, AL033383, AL138752, AC004257, AC008083, AL161672, AL136305, AL022318, AL137073, U95742, U78027, AL049829, AC009060, AL138958, U91326, AL136179, AC020914, AC007679, AB023051, AL035422, AL132987, AL360227, AL117333, AC007934, AC000082, AC005098, AL121905, AC018641, AL352979, AC003043, AC008733, AF187320, AC000379, AC010504, AL080276, AC010618, AP000022, AC084239, AL020993, AC002312, AL138706, AL365505, AL035086, AC002039, AC024561, AL135901, AL031282, AC007216, AC016543, AP001727, AL136137, AC007395, Z85987, AC010197, AL121751, AC005913, AC008753, AC003041, AP001715, U85195, AC008675, AC018757, AC009086, AC004954, AC002492, AJ400877, AL138836, AL078461, AC010480, AL024507, AC005905, AL049636, AL445248, AC017015, AC004707, AC005871, AF168787, AE000658, AL117382, AC004882, AC007225, AC005037, AC007954, AC005229, AC010620, AL049540, AC002426, AC006211, AC009087, AC004477, AC005522, AL137784, AC006006, AL118520, AL121906, AF067844, AP000065, AL136172, Z83840, AC005839, AL096702, AC005520, AP001426, AL035659, AC005080, AL096791, AL035696, Z82182, AP000512, AC011452, AC003077, AL033528, AF165142, AC004797, AC004965, AL109743, AL136131, AC009498, AL136170, AC019046, AC008482, AC005829,
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HBMUH74	65	866160	1 - 712	15 - 726	AI633540, BE999936, AL529110, AI911597, AW016785, AA479308, AI381011, AI057451, AI283542, AI224172, AI025510, BF929951, AW589256, AU156824, AU155569, BF063133, R43074, R25758, BF818086, AL529111, BE567017, BE077233, H09061, AA479409, AK001927, AK001324, and AC009318.
HBMWE61	66	778066	1 - 1104	15 - 1118	AL530335, AW182591, BF435671, AA776879, BF435138, BF435606, AL523150, AA707339, BF055381, BE312352, BF888738, AW513106, AL119508, AI684324, AI827310, AI538166, AI457932, AI420719, AI889349, AW026348, AA456678, AI567105, AW316798, AI362960, AI313262, AL523149, AW189249, R42782, AA564318, AA995148, AA598982, AA161330, N30438, N30445, AW771697, AA448673, AI334337, AA194840, AW149443, T99604, AW969668, AI915277, AU145646, AA214246, AW085918, AA161331, AA501503, T57340, F36146, BE700927, AA528196, AW956355, AA436448, AA436494, AW339369, AW467983, F10251, BF057117, AI049659, N67950, BF934197, AA653249, AI805953, Z39922, BE700856, AW137398, BF927130, N94961, R56027, AA377531, W38702, H39550, AW878949, AL049732, AB029037, AK001300, AR027928, and U04811.
HBNAX40	67	834801	1 - 2779	15 - 2793	BF966078, BF792338, BF034911, BF217973, BE883387, BF947401, BF574197, BF060683, BE220005, BE645102, AI808818, AU158323, BE222311, BE467629, BF985268, AA203305, BE504175, BE612371, BE504478, AI890286, BF514573, AW173142, AI674096, BE301797, AW962903, AI674111, AI935063, AW958697, BE931820, AI431629, AI418384, AU157624, AW958686, H10461, AW995348, AW511978, AA864829, N29528, AI287632, AU157306, AW206871, AI381961, BE018315, AW238878, R61198, H80193, AA531283, AA565321, AW073280, AW026572, AW243789, AI819460, AI913516, BE503173, AA305587, AA305897,

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HBNBJ76	68	810332	1 - 1960	15 - 1974	AL534356, AL529732, AL534050, AL534051, BE745824, BF966566, BF966920, AU143029, BE250074, BE743214, BE293428, AA521297, BE293836, BE890115, BE273039, BG029074, AW576992, BF920823, BE299201, AU147440, BE262643, BE297473, AU160197, AA237063, AW749171, BE899113, A1818118, AA477060, AL522323, A1863128, A1094964, AL526791, BE541518, BG001429, A1073714, AA557526, BE312979, A1688523, BE880788, BF693443, A1818673, AA476949, AA504527, AA237017, A1754204, A1073509, AA236864, BF846722, AW129564, A1075855, BE305107, A1078504, AA503761, AW953337, AA410682, A1906296, BF921511, A1620391, BF930664, H28108, BF934123, BF930777, T80380, BF934139, BF921439, A1669584, A1074509, BF921504, AV696486, BF920987, BF921181, BF930672, BE619914, BF921183, A1540579, A1087186, BF930838, AL526822, A1342200, A1190396, N25006, BF930678, D53101, H15668, R91002, AW189172, BF921415, BF920975, A1445693, AA504456, BF568918, BF512279, AA235460, T33078, H38314, N23507, H15669, H41352, A1688360, T33077, BF921110, AW168851, AA932279, W28365, H06522, T16220, R50974, BF929910, H93073, R66792, H49516, AA432099, BF809362, BE787105, BE243707, H17715, F24147, BF939372, BE047893, AA835754, BG003276, AA235568, AA584011, BE398065, T33748, W99346, BG004624, H95616, AA938420, AA292524, A1372738, H09967, A1569025, BF921193, H30757, BF802828, AA719210, AA322159, H97134, BF930773, N23060, R88745, BF877775, R43985, A1135592, D45278, H98793, W99304, H06577, H17097, A1541278, T34955, H23692, Z39225, H88727, BF894389, T32634, H95901, BE207940, W16965, AA831137, BF926660, N55137, F32307, C15500, AA191241, R81752, T30362, F10931, R35432, AA362861, AA852184, BF946139, R13653, T31151,

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HBQAB79	69	810542	1 - 1317	15 - 1331	BE926412, W27043, BG006701, AW500368, and AB020689.
HBQAC57	70	793814	1 - 2097	15 - 2111	AI087837.
HBSAK32	71	856387	1 - 578	15 - 592	AI740936, AI742064, AI832483, BE856354, W89126, AI741855, AA552666, AI525133, AW293469, AI032044, AI769344, AI199155, AL537059, AA769290, AA481420, AA425849, AA968823, R73406, AW290963, AA653956, AA481658, AA244354, BF477489, AI278115, BF664060, N92264, AI014386, N45235, AA723656, AI354229, BE041734, W24441, BE350121, BG109716, R73405, BF690465, AI675727, AL530882, AA570628, AA992527, AW089841, BE858139, C21531, AA029467, AA029534, AI951077, BG004006, AK026029, and AL442086.
HBXCM66	72	639039	1 - 996	15 - 1010	AW970983, AA311432, AA515629, AA515360, AW973992, BF804385, AL046519, AV703785, AA502991, BE968744, AA631507, AI206841, AV763026, AV763058, AW613805, AW340905, AI431303, AI366555, AW873061, AI284640, AW270258, AW341903, AA809546, AI821716, AI613389, AV704541, AI499954, AA533025, AW438542, AL079734, AV655282, AL079645, AL046409, AW023672, N23504, AW419262, AV759632, AI061313, AW872736, AI189682, AV738383, AA533176, AW193265, AW069227, AW023111, BF725844, BE139139, AI284543, AI254770, AW979087, AW026305, AI421950, AI419337, AW872676, AW970981, AL038936, AI634187, AA515351, AV762633, AW327624, AI251034, AI223626, AW407578, AI635440, AI003611, AI801482, AI250552, AI754170, AW574899, AI251284, AI251203, AW130188, AW303196, BF827410, AV755512, AI355559, AV763584, AW845366, AW979241, AI891080, AF123761, AP001711, AL122015, AL035249, AC009247, AL133545, AP001725, AP000252,

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HBXCX15	73	637542	1 - 1205	15 - 1219	AA595781, AW277007, AI274544, AA548746, and AC006329.
HCDCY76	74	837972	1 - 1378	15 - 1392	AI569872, AI384105, AI333327, AW015889, AI376057, AI422820, AI334381, AI358937, BE856323, AW135953, R26141, AA902950, AI092798, W23737, AW970455, AW382273, R26355, AW377602, AW377466, AW852110, BE695760, AI200091, BE695755, AW377603, AW377467, AW852111, BE695754, BE695766, BE695759, AA662446, AB032417, AF183910, U43317, AF224316, and AB029451.
HCDDL48	75	839743	1 - 799	15 - 813	C14389, AW975618, AW949645, AW964468, AV724520, C14331, AV718692, AV718707, D59502, AW966065, AW966075, C14429, AV718489, D59619, D80210, D80240, D80268, AV699550, AV723927, D80219, AV699746, AV720211, D80212, AW949642, AW966330, AW978634, AV719822, AV718844, AV719324, AV719468, AW966062, AV722801, C15076, D81030, AW966053, AW966389, D51423, D51799, D80253, AW177440, D80166, AW949653, AV720731, AV699447, D59467, D80195, D58283, AW949656, F13647, D80043, D80188, AW965185, AW965197, AW964737, D80391, AW973541, AV719783, AV718800, AV720464, AV718770, AV720203, AW966531, D80227, AW959628, AW959570, AW960553, AW949643, AV719557, D80022, AV699927, AV720791, D80193, D80196, AW949641, AW973447, AW975605, AW966013, AW975621, AW959799, AV719188, AW959582, D59927, AW949631, D80045, AV720878, AW966054, AV718633, AW978661, AW973488, AW960465, D80038, AW973307, AW973334, AV723097, AW966534, AV701357, AV718931, AA305409, D80366, AW949630, D59859, AW973474, AW966029, AV721386, AV718938, AW966041, AW949646, AW949658, AW966050, AW949618, AW962245, AW949655, AV718681, D59889, AV718440, AV720028, AW959597, AW965177, D57483, AW973485, AW966022, D59610, AW965163, D80164, AW966059, AV700889, AW978648, D59787, AV720812, AW975613, AW949629, D59275, AW965184, AW949657, AW973330, AW964756,

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HCE2H52	77	847007	1 - 1262	15 - 1276	AI821394, F08688, AW812688, AA826667, BE089841, H54483, AV714369, AW812690, U49973, AC016395, AC010386, AC004828, AL160237, AL137787, AL353643, AC002456, AL049838, AC008598, AC004941, AL136168, AC018719, AL136419, AC006211, AL121944, AC005544, AP001818, AL136146, AL158093, AL121865, AC008806, Z99497, AC019106, AC011299, AL121894, AL133257, AB020862, AC006213, AL359382, AC018360, AC004241, AL021408, AC002556, AC005872, AC083862, AC004067, and AL161450.
HCE3B04	78	831151	1 - 1793	15 - 1807	BF341078, BG028747, BE879916, BF059108, AW300205, AI634862, BE048884, BF195876, AI636211, AW117753, BF573148, BF197549, AW954937, N91173, AW168897, AA983273, AI374834, AW002887, AI435122, AI674869, BE673355, BE671667, AW081459, AW271351, AW237603, AI818463, AI025174, BF691042, AW952156, BF832239, BF089340, AI559577, AA758512, N48695, BF790935, BF211459, AI492924, AW168956, AA291263, BF738867, AI476602, AA209287, AI953330, AI702174, AI590318, N29813, AA653205, BE645737, AA908587, W19735, AI679742, AA255954, BF666339, N49753, AW087559, BF571795, M86083, AI303020, AA148623, N89992, T31216, T16818, N72208, AA642349, N45545, AL044337, AW515018, W19616, AA256117, AI276869, N52681, T86722, D61438, N59844, AW391658, N51450, AA319376, W31671, BF839545, AI702072, AI623267, BF381609, AI692792, AI014575, AW151467, AW389355, BF751083, D57869, N22895, BF752070, BF748108, AW449444, N55976, N90029, BE565819, BF908853, AW601227, BE074229, W17143, BF751076, BF751211, BE869711, BF154561, AF020762, and AK025520.
HCE5F78	79	838101	1 - 1718	15 - 1732	AK025051.
HCEDR26	80	771144	1 - 1405	15 - 1419	AW809560, BF822291, AW805745, T06675, T41328, AW809450, BF884442, BF773357, BF738231, BE163588, BF998055, H00095, BF900030, AA346118, AA644090, BF725844, BF725688, AI919265, AI801505, AW103406, AW855803, BF673854, AA833896,

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HCEEE79	81	560609	1 - 1038	15 - 1052	
HCCEEQ25	82	531784	1 - 978	15 - 992	AW444547, BF514399, AL534267, AI567447, BE747694, BG152517, AW298411, AW865264, AA807579, AA554958, BE889430, AA612578, BF798462, AI078409, AU157259, AI819391, AA643770, AU120121, H77386, AW438907, A87682, U78181, U78180, A98491, U94403, A87681, A87684, AC003687, AC002094, AC007220, AL136984, AC020750, AL031666, AL136110, AL161781, AC020744, AL031672, AL162424, AC002425, AL022721, Z75887, Y10196, AL139340, AC021863, AC025464, AL353812, AC007956, AL117382, AC005789, AL049555, AL035086, AC008403, AP001754, AL035684, AC007204, AL021395, AC020552, AL157701, AC010605, AL137139, AC083866, AL035695, AC007021, AC010412, AL021707, AL135927, AC007227, AF109907, AC008651, AL035587, AL133259, AL136418, AC010200, AL353194, AL034405, AL020997, AL049539, U91327, AC008551, AC004816, AF123462, Z95330, AL121914, AC002120, Z97876, AC004846, and AC005189.
HCCEU18	83	688041	1 - 1215	15 - 1229	AL045384, AL042668, AI525108, T85422, AL046089, BE843928, H08562, AA921935, AA815292, AW972431, F23282, BE794230, U91320, AC008469, AB018295, AL117630, AC009032, AC003043, AC008745, AC007405, AC004867, AL117381, AC004967, AC013429, AC005098, AC016395, AL050335, AC005088, AC020913, AF001548, AC004876, U91321, AC005279, AL355392, AC011497, AL031658, AC005412, AC005231, AC005089, AC009600, AC011490, AL109897, Z98051, AC011495, AC009087, AL133215, AC010271, AL136305, AC004125, AC007052, AC004815, AC005944, AC004703, AC004019, AC004813, AC011479, AF168787, AC012384, AC004797, AC005052, AC007282, AL080243, AL031680, Z84469, AC006116, Z84466, AP001717, AC007956, AC006014, AL034549, AF030453, AC006454, AL049761, AC005821, AL133551, AL157938, AL009181, AL133353, AL031670, AC005488,

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HCEFZ82	84	831745	1 - 1797	15 - 1811	BF981465, BF688419, BF969763, BG178653, BE730527, AI672493, N21040, BE395792, AW386160, BE858812, AI672483, BF530193, AI693512, AV751914, BG180158, AI138621, BG104179, AA778387, AA173791, BF939691, AW615384, AW960851, AW594109, BF091657, AI022755, AA209239, AI077708, AI824069, AI936432, AI038303, N39250, AI927782, AI457926, AI436138, AI056772, AI079503, N58793, AI016045, AA210850, AI096581, AA062719, W88815, AA725072, AI375410, AA669791, BE300887, BF431891, AA173843, W31742, W88816, AI740977, BE727603, AI086937, AA704681, AI190844, AI341909, AI365029, N46695, BF590052, AV749863, AI086941, AI676179, AA826493, AA554932, AA789007, BF111593, AA917998, R08679, AA889734, W04647, AA321894, AI912831, AV750240, AI239655, BF592139, H71960, AI368377, AA992261, BE277655, H78240, H78440, AI470391, R37067, AV694383, AI700804, R44781, AW612991, R10835, H96434, N77482, AA314780, R44068, AV751269, R08587, AV697548, AI419628, BE218690, N90646, H65409, BF530646, AA836620, W26811, R10834, AV660888, AV747670, AA905784, AI086303, H84253, AI086248, AV723953, BE881061, BG110517, BE047952, BG180996, AV682466, BF107905, AI321428, BE876038, AW051059, AI538885, AV757598, BF752170, BG113385, BF968903, BG028873, BG113847, AW301865, AL036802, BG033199, AV682875, BG178911, AI345612, AV732936, BF924882, AW827285, BE966634, BG120492, AI345415, AW827206, BG164371, AW827214, AW827276, BF971336, AA568405, BG026714, AL118781, BE965758, BE965192, BE875407, AI581033, AL041573, BG260037, BF835240, AV682330, AI343059, AV760102, BG058150, AI361701, BF816811, AV756838,

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HCEGX05	85	827060	1 - 1291	15 - 1305	BG115350, AU119350, BE395306, AU149428, AA460507, AA459863, BE044594, AA779792, BE301437, AW579480, AI369811, AU145714, AI143575, AW579479, AI087363, AA888608, AA455331, AA454932, AA975032, AI192991, AI187247, AA457365, AI332380, AW513149, T66101, AA642446, AI423532, T78802, AI357822, AA278914, AI634331, W22924, AA654344, W46308, AA741577, AA635904, AA278754, T90783, AI982596, AI129014, AI961148, AW449931, AW374368, AA741079, AW374371, AI679780, AI751335, AU145338, AA731279, F09505, AA721439, F11860, AA349664, AW374417, AA132247, T51224, R48887, H22197, W46258, T51338, AW806601, AA832413, AW450706, BE328051, T78418, BG059569, D29092, BF932861, AA767603, AA132246, AI537429, T98503, F20751, T83300, AW579478, D19816, AI653338, AA933679, AI917488, AW169041, AW338837, BE702499, AW179186, BE872997, AA457414, AW814638, F23623, D29117, AL133227, AK023103, AK022731, AK021718, and AL354720.
HCFLN88	86	610000	1 - 1420	15 - 1434	AL526786, BE622815, BE746913, BG167566, BE612603, BE613343, BE543099, AW328570, AI084727, AW511229,

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HCFLT90	87	788578	1 - 896	15 - 910	<p>BG164543, BG254195, BE569122, BF701728, BE883133, BG164607, BE564055, BE621682, BE621082, BE548066, BG164527, BE439646, BF212991, BF669801, BF679424, BF699188, AW958367, BF696977, AI300093, BF104175, BE896610, BF382702, N73920, AI301065, BE327267, AV714574, BF382383, AA131247, AA417682, AA053860, BF681596, BF242641, BE909206, BE327067, W80481, BF666642, AW263496, BF696681, AI479737, AI499701, W56158, AA922117, AA781414, AA131515, AW104450, AA001425, AV754612, AW630854, AW274584, T66256, AW173171, BG252902, AA258280, AA026671, BF679441, AA256918, AW071970, AW817587, AA019198, BF695475, AA054011, AA026632, AA954721, AI926512, AI393574, AA742324, AA972701, AI685317, W47268, BE856240, AA434451, AW630034, AV713327, AI305153, BF673772, AA678370, AW613806, AI356800, AI280399, AI200095, AI749979, AI334386, BE262340, AA837589,</p>

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HCHAB84	88	834326	1 - 1345	15 - 1359	X84712, BF526942, BF036429, BF035689, BF034330, BE878646, BG117306, BE906856, BE871642, AV703538, AW955111, BE729985, BE958344, BE271782, BF698225, BE568321, BG250080, BF826293, BE156569, AW579884, BF977502, AA587630, BE621946, BF512422, BF695706, AV764128, AA448786, AI032411, AA477231, BF695587, AA641139, BE621432, H02682, H02590, H29948, AW972521, AA186733, BF909586, R22544, BE673152, AW405966, AI358557, R22543, BG169787, BF813006, BF742389, AW673871, AA327923, AW392393, AA311766, BF916201, BF742334, R70413, AV763358, AA505606, AA477230, AW794624, AW674083, AA595661, AA579044, AW265468, AA807704, AA642809, AW021674, AA618263, AA405570, BG180320, AA533066, AI702049, AI061313, AI254267, AA084439, AA491767, BG059139, AL042667, AL042670, AA187682, AV763460, BF131490, AA313025, AL121039, AA557945, AW148821, BF901147, AW402784, AA693484, AV758870, AW410844, AW873417, AA601376, AL119909, AI251024, AI444575, BF725761, AW963489, BF857486, AI141202, AA776665, AW069110, AA601290, AW469462, AW270385, AI572680, AW028376, BF817511, AA809116, BF739035, AI064968, AA640310, AA535216, AI679759, AI753113, BF030482, AA600863, AI185160, AW192930, AL138262, BG118544, AW675677, AW023390, AW672927, R67038, AI445699, AI312267, AA659832, AV647070, BF804385, AA610644, AI821901, AV764383, AW105463, BF770715, R83577, AU157209, AI039257, AA602906, AA809546, AW820105, AA502991, AV762112, AI252611, AI567676, AI476049, AA015948,

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HCMSX51	89	788643	1 - 2239	15 - 2253	AL520206, AL522291, AL520207, BG115714, BG023953, BF343959, AU133571, BE839880, AW954438, BE264316, BG261277, BE879757, AU131026, BE265959, BE278903, BF725639, AW246741, AA864833, AU148856, BF111640, AA706935, AA431813, N38742, BE857705, BF476344, AU152863, AU125122, AA480041, AW170367, AI094797, AU154528, N48379, BF913004, N26479, AI803158, AL120744, N35219, AW245159, AI089912, AI927351, N20323, AL046695, AA476664, N35530, AI078494, AA015687, AI016568, BE857202, AI587317, AA446620, AW629254, AI433184, AA548282, W03412, N27597, W00855, AA825427, AI128747, AI082265, H38927, BF970202, R48359, AI569253, N29410, N44883, AW014479, AA934555, N41471, AW974179, R15948, AA573084, AA233832, AA017058, W16680, AI312737, R60804, N67483, R15949, Z43237, BE811896, N45053, BE832888, T11764, Z43099, AA431409, R48260, AI933045, AW874096, AW105691, AA336676, AA044969, BF362640, AW893387, AW892550, AW892516, R60299, N35043, T49574, Z41630, AA013473, N35211, AA738419, AA223632, H86402, T49573, AA017209, BF941569, AA635071, AA054652, H86066, AI351292, F02575, N79527, T11765, T35773, AW993110, AW194575, BE893541, AA448030, AI086309, BF737533, AF001690, AF029231, U96629, AB007042, AB011091, T66574, and T66575.
HCNCO11	90	775086	1 - 732	15 - 746	BF926420, BF926408, BF875996, AV705104, AV726755, AW964429, AW950395, AV703435, AV707451, AV707628, AW961373, AV705453, AW964210, AW964423, AV704361, AW952896, AW961510, AV726887, AV729165, AW963643, AV707705, AW963965, AV707556, AV702814, AW963219, AV704916, AV706906, AV703045, AW950229, AV690921, AV704674, AV728297, AV702810, AW960535, AI557262, AW963644, AV708024, AV701594, AV727806, AV727803, AW957298, AV650843, AW957682,

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HCNSD29	91	862314	1 - 1714	15 - 1728	AU130793, AA902780, BG114197, AA675900, BE548792, BE796388, Z78308, BF973800, BF125408, BF382619, BF894864, AA902842, AW083941, BF243278, AW131275, AA155995, AW771771, AA938206, BE251257, AI745367, AA448317, AW511804, AA448455, AI370549, BE139488, AW176079, AA156223, H73833, BF940408, H73162, AW084204, BF062122, AW028149, BF924722, BF433518, AI263130, AA411961, AW071942, BF694503, AA743704, AV764156, BF948901, AW082575, R11580, AA412712, BG153595, BG058948, BF893682, AU130757, BF667868, AF049523, AF049528, AK024810, AF135439, U70667, AF049524, U40747, AK023109, R34683, R34788, R63327, R63326, R63340, R63341, H15969, H27538, H27547, H27621, H82731, H83344, H83606, H83696, N20620, N32195, N33798, N36103, N36549, N41405, N41578, N44109, W19354, W25310, W38906, W60991, W73124, N89856, AA027859, AA027925, AA034908, AA034975, AA133603, AA133602, AA172294, AA261835, AA262483, AA523928, AA551549, AA563835, AA857095, AA872771, AI095007, AI096629, C05812, C15709, AA247765, AA393650, AA400834, AA487693, AA488710, AA663750, Z21548, AA843596, AA844473, AI041193, AI083985, Z41640, Z46025, Z44537, F03607, D11797, AI262317, AI264408, and AI304594.
HCQBH72	92	637548	1 - 1782	15 - 1796	AA640538, AW974686, BE144592, AA649644, AA649707, R31618, AA652004, and R32348.
HCQCC96	93	845066	1 - 2152	15 - 2166	BF970581, BG117166, AV695085, AV686338, AI341460, AW173384, AV693976, BF032394, BG024316, BE893802, BG254562, AW055235, W39204, BG170478, AW978735, BF572731, AW968956, AI909118, AI909124, AW592429, BG171038, AW118938, AI689438, AI419443, AI801242, AW438695, AI123971, N59864, AA707755, AA974210, AW130020, AA489046, AA768780, AI146982, AW768627, AI093766, AW889585, AW298736, BF111650, AA284319, AA907244, AW874520,

					AI535676, AW579265, AI955386, AA279581, AA983814, BF185409, BE622718, N59886, AI859864, AI498376, BG171039, BG116650, W01363, AI699807, AA824487, T86598, AA994605, AW044013, T85108, AA489144, AW768600, AA811658, AW271482, BE895361, AI631722, AW021293, R64514, T77523, AA736753, H44608, AI955411, AV689519, N90263, AL119283, H94626, T77559, AL119309, T86597, AD09117, AW376940, N79005, N77027, AW105078, N62828, AI701272, AI334730, T07505, AW848643, AW243861, AI909110, BG007292, BE162291, BE162293, AA532611, AL022153, AC004804, AC006840, AC008125, and AL355871.
HCQCJ56	94	832157	1 - 1273	15 - 1287	AI674974, AI217307, AA813576, BE302346, AI824976, AA994749, AI244904, AI262935, AA020796, AA234517, BF432061, AA443035, AA463478, AW079079, AA694400, AI005463, AA776532, R00437, and R00438.
HCQCM24	95	845070	1 - 1915	15 - 1929	AI905478, AW963993, AV701494, AA528253, W37762, BF970457, AW771888, AI905529, BE817678, W37779, BE817676, BE817671, AI245339, AI650320, BG164304, AA524462, AW241742, BE539666, AA532816, AI261199, AW024681, BE817677, BE540718, AI073889, AA634509, AA430047, BG105129, AI301532, BE817544, BE567771, AI284328, W37840, AA946995, AI261595, AA430256, AI557710, AI367914, AW802496, AW470760, AI254217, BF856116, AW183037, BF673560, BE770611, BF855193, AI886042, BE817655, AW802501, AA587825, W31581, AI632720, AI952748, AI204507, AW451863, AI659684, R21943, BE176747, BE003678, BE003673, BE837515, AW866502, AA854919, BG169910, AI608737, BE003667, BE003665, AA902893, BE817476, BE817652, BE176749, BE817470, AW176042, AW866504, BE003676, AA112330, BE817478, BE536935, AA284617, H92723, BF445303, R28123, BF222392, BE003682, AA626191, BF475670, BE817645, AI797583, AA377172, AA579168, T90137, AW363872, AW070545, AI796563, AA069314, AW960665, H57105, AA614369, R28013, BE081148, AI922451, AI824371, BF818434, BF818436, BE837483, BE817451, BF229149, AA314230, BF846051, AW994489, AI972085, AA809584, AA594344, AW299894, BE769260, BE827354, AW299537, AW148344, BE067485, AW148392, BE817444, BE086250, BE855526, AW802489, AW603877, BE817576, BE772109, AW603875, AA345280, BF819869, AA886302, BE817574, BG008318, AI694024, BE837418, BF677528, BF435329, BE928914,

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HCRA10	96	695709	1 - 774	15 - 788	AW967618, AI739035, AW438908, AI435334, AI401755, BF345349, BF038771, AI591140, BE782687, BE871616, AI204170, AA731364, AA251459, AA432147, AA446655, AI003558, BF885284, AI961996, AA593594, AI381200, AI190639, AA507216, R79970, AI682154, AI673081, AW613695, AI500259, AW663327, AA447459, AI742455, AA398391, AA401707, H97579, AI263813, AI149747, R69328, BE350370, BF528073, R80068, AA670245, AA251458, AA643922, AA852081, AI693283, BG149181, AA889222, BF921924, BE562515, AW452847, BF034010, and AW384844.
HCRBF72	97	828945	1 - 1250	15 - 1264	BE903557, BE562899, AA662845, BG026497, BG258810, BE882205, BE562161, BE514464, BF982018, BE514007, BE561003, BE267962, BF206694, BG259321, BG256701, BF034175, BE384720, BF127787, BE397447, BF195027, AW069723, BE397483, BF673575, AI678045, BE560321, BE270102, BG060101, AA808954, BG178034, AI817075, BE268098, BE396490, AA135359, BF339022, AI934623, C06498, AI346937, AA904052, AI934641, W77999, AI318369, AW406479, AA172174, F20535, W47056, BG112636, R54743, AW207802, AW204511, BG104670, AA076651, BE879340, BF887485, BF744650, W79458, AI085220, AI499014, AI638001, AA680169,

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HCRNF78	98	793774	1 - 878	15 - 892	AW772509, AI082249, AI917738, AW963994, AI765311, AU146483, AI569854, AW963992, AW469770, R60843, AI079350, AW015424, R34737, AA127263, AI860770, AI094178, AA580273, AI886702, AI886517, T80049, BE895381, AA127262, AA377155, AI024477, BF326792, AV707332, AI744759, AW861944, AW858525, AW858526, AW877209, AL119324, AW858455, AW604723, AW372827, AW577135, AW804686, AK001104, AL133095, AR066494, AX030435, AR060234, A81671, AJ251859, AJ279014, AX046357, AR054110, AB026436, and AR069079.
HCUF85	99	589520	1 - 583	15 - 597	AR078985.
HCUCF89	100	637986	1 - 516	15 - 530	AI524118, BE277210, AL039145, BF698704, BE276480, BE409047, BF698510, BG150796, BF666395, AW089101, BF945647, BE274150, BF699964, AL038072, AU121417, AI630176, AA847952, AW410354, AP001759, AL138706, AC006449, AK023598, AJ009616, AP001468, AC006014, AL035691, U85195, AE000658, AC005971, AC005049, AC002543, AL109743, AC005488, AL121891, AL031727, AC005182, AC006975, AK022018, AC005725, AL035405, AL158830, AF053356, AC008050, AC007912, AL137783, AL031295, AC011515, AC004089, AL021937, AC004098, AC008055, AC000070, AC006050, AL022326, AL121601, AC005104, AP000946, AL391867, AF238375, AC004544, AC005911, AC006006, AC006511, AC023510, and AC005627.
HCUC44	101	790277	1 - 1129	15 - 1143	AL532468, BE621866, AL521895, BE621760, BE538472, AL521894, AV734260, AV723629, BE770935, BE790853, AI140351, BE621673, BG168718, BF793790, BE908998, BE545559, BE616433, BE395052, BE621070, BG164550, BF664130, BE937841, AI859347, AV696398, AW977552, BE731169, BE514231, BE312999, BE717043, AV696286, BF726404, BE018100, BE717057, AA121548, AI815642, AA768342, BF326554, BE281457, BF430984, AI864674, AA530873, BF338307, BE717061, BF977210, AA127712, BE676694, AA722381, BE717055, BF971805, BE795728, BE717048, AI987515, AW275917, AA417302, AI354682, AI859814, BF686844, BG035461, AW474962, N92869, AI025466,

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HCUD64	102	835082	1 - 388	15 - 402	BF109963, AI870761, AI149403, BE675981, AI979111, AI590348, AI769440, AA568609, F04371, R68556, N24429, R85927, AW973928, W02539, BG150863, R79201, N69412, R79466, T80848, AI494453, R28549, AW440020, and AL390151.
HCWAE64	103	535893	1 - 457	15 - 471	AL043265, BE895962, BF091850, BF924502, BF930204, AW973724, BE906549, BF972009, AA558125, BG163769, and AW993087.

HCWUFU39	104	651316	1 - 453	15 - 467	BF955180, AL538374, AA349755, AL535774, R50877, AW903429, AW450150, AW961956, R15175, T05199, T08208, Z42650, AI459735, H17893, T31283, T40055, R60267, BF961532, T08351, AB040905, and AK000373.
HCWUL09	105	834722	1 - 747	15 - 761	AL138741.
HDHAA42	106	695710	1 - 929	15 - 943	BG168654, BF966805, BE908431, AI669827, BF968985, AI675110, AI916264, AI022830, AI003782, AW473663, AA404248, AA404272, AI480396, BF968064, AI819299, BF448122, AA019330, AW628193, W68651, AV716046, AA644583, W60067, AW016873, BF222235, BF432033, H26918, AA401281, AU156898, AI702463, D60528, BG252567, D59970, AW902065, AA903799, BG252566, C04408, C14658, AV728633, T89454, AA401283, BE702259, BE702050, AA002068, R42519, AI138897, AA834487, AI695264, AW369806, BF669272, AA974451, BE870958, AI961900, BF670633, T89543, AA383388, Z41482, BF184645, BF028198, BF664878, BF944768, BE765788, AA002198, AI564290, AI560004, AW087987, AI687568, AI306562, AI560651, AW132107, AW085963, AI539545, AI648684, AI696611, AI690692, N25033, AW117806, AI366922, AI678446, AI370322, AI440444, AW008226, AL045349, AI446704, AI623673, AI609096, AI955943, AW089351, AA830955, AV750565, AI280607, AA829775, AI803740, AI936003, AI494629, AK001943, AI133653, X84990, AK000636, Z29372, A32826, A30330, A32827, A30331, AF130056, AF115392, and AF030513.
HDHEB76	107	553622	1 - 483	15 - 497	
HDPCW16	108	840358	1 - 1522	15 - 1536	AL046424, AL520269, AL530345, AL520270, AL525169, BF337231, BG118238, BE798545, AW246567, BF970663, BF965787, BF969366, BE783929, BE793384, BE266986, BF528633, BF347353, AL525170, AI815776, BF344880, BF792135, AW793516, BE263579, AW297948, AW296357, BG059919, BF968412, BE261945, AW364801, BE070095, AW516100, AI859217, AI205184, BE350228, AW245703, AW248385, AW008242, AI674610, AA450134, AA677778, AW191853, AW083410, AI973282, BF155249, AI500208, AI359204, BF961380, AI571182, AA593565, BG025370, AW194193, AI214035, AV698756, AI659973, H17114, AA225572, AW245580, AW247948, AW954225, AA861285, BF745614, AI927559, BE265979, AA775443, AW015750, H18943, AA642634, BF836642, AW732061, AA665550, AA678588, AI817267, D60749, AI674941, AF009759, H74159, D60750, Z40715, AI698885, AA564889, AA687090, AA225658, AA468959, D51256, AI435027, T91353, BF593487, AI520908, AI597773, AI865553, AI694877, AI041194, AW135397,

					R12563, H17219, AA777103, BF834394, AA337430, AA694470, BF916766, BG111049, AI872869, AI572751, AI927445, D81096, AI342344, T30521, T91440, T30520, AA662525, AW149871, AI312176, T30121, AA090561, T15863, AI985606, AI053516, N88658, AI566726, R09913, R62464, AA339338, AA523081, AW961065, BF222090, AA927388, AW874224, AA558682, AA478552, BF111253, BF855358, BF209274, BF677966, M78952, T32904, BF957728, AW059622, BE746763, AL047548, AL050118, AC004228, AX035941, AF084559, AF126799, AF139813, AC004770, and AF202114.
HDPDI72	109	897277	1 - 1536	15 - 1550	AV717810, AC011464, AC002472, AC021015, AC008119, AL356299, AF003626, AP000215, and AP000010.
HDPDJ58	110	587265	1 - 1983	15 - 1997	AW629326, AA642298, AW973571, AW293886, AA714702, AA489697, AW665911, AW119199, AA553561, AW768356, AA744636, AI806778, AA768815, AI221150, AA732540, AV713604, BE247593, T84374, AA354491, T07354, AW273936, AA648816, AI199572, AL133087, and AL117381.
HDPFF10	111	853513	1 - 2568	15 - 2582	BG258479, BF796825, BF821423, AA534416, BF821426, BF879214, BE463469, AW886669, BF368287, BF794125, T91577, T91625, AW299992, AI689842, BF590018, BE818151, and AA782975.
HDPFU43	112	790189	1 - 1890	15 - 1904	BF983796, AV653552, BE259910, AI766649, AV703996, BF304737, BF433988, AA700236, BE178896, AI338643, AI354469, AI823774, AI379434, AI139748, AA934777, AI424295, AI280893, AI360455, AI539184, AI750403, BE184282, BF675256, AI262328, AV653641, AV687758, AV688883, AI538841, AV683306, AV686477, AV687759, AV688680, AA903947, AV689834, AW957949, AI079715, AA128542, AI160482, AW804386, AA459614, BF770031, AW014830, BF848624, AW859834, AV685347, H94111, BF807109, AW470950, AA316165, AI400889, AA459389, BF924526, AI083688, AA374022, AW086191, R45973, W21315, R63000, BF798131, N93502, BF798175, AA304841, T39902, BF839163, C02619, AI373388, AV752433, AI750402, H94110, AI015368, AI916914, AA531491, AA215914, AW051088, BG180527, AW983783, AI470293, AV681824, AW023338, AW827289, AI929108, BF814357, AI440263, AA579232, AL040694, AI433590, AL042627, AW087445, BF871314, AW162194, AI537677, AI698391, AL037454, BF910810, AI923989, AV738730, BF904265, AV723064, AI345688, BF792445, AI921379, AV657079, AW020397, AV702021, BF814018, AI859991, BF184134, AA808175, AL043975, BE964614,

				AI446538, AW827118, AW150511, BE908107, BE965121, AV756990, AL514823, BE965758, BE906419, AV714036, AV682345, BE965621, AI623941, AI969655, BF750879, BG031068, BG036067, AI340519, AW452992, AW128931, BG113169, BE972047, BE538997, AL049085, BG260052, BE904851, AV717927, AL110306, AA635382, AW834221, AV706915, AI251221, AW022682, BG165323, BE965432, BE967307, BE965067, AW881086, AI340603, AI560099, AA427700, BE775251, BE965599, AI284509, AI863241, AA857847, AI866465, AI524608, AI538850, AA420722, AI918634, AL039011, BE439835, AW020048, AL080033, AI567351, AW089844, AA613907, AW163554, AI050666, T99953, BG256950, AW075084, BF885000, BG027280, BE878028, BE885490, AI349937, AI334884, AI307708, AL036187, AI963068, AI312325, BF925729, BF218049, AV761001, BG168696, BG179666, AV728833, AI671642, AI801325, AV729462, AI565172, AI307520, AV759235, BG104769, F29308, AA883351, BF966050, AI621341, BG105895, AL119836, AI269323, AI475371, AV718300, AV757781, AI564166, BE964700, AV742848, BE047833, BF835250, AW128855, AW151138, AV685436, AI950892, AI500662, AV681721, AI247193, BF812937, AL514493, BE839731, BF339322, AI120254, AI950664, BE909150, BF822127, AI345608, AI800370, BF983610, BE875407, AV757455, AV722452, BF970162, AA651819, BG260087, AI091468, AW935969, AI536685, AF049891, AJ006198, AF061254, AF049890, Z95115, AC007429, AL355379, AF176651, AF143723, AL162004, AF217982, AK026480, Z72491, I89947, I33392, I48978, AL133640, AL050149, AL133093, AL110196, AR075044, L24896, AK026649, AF161699, AL359622, AI5345, AF113690, AK024538, AL137555, AF227198, X70685, A08913, AX020124, AX019230, AF116688, AK024974, AL117435, A08910, AR038854, AK000718, AK026522, AF225424, AF116602, AF130087, AF125949, AX019229, S78214, S36676, AL049938, AK026528, AL050024, AF087943, AL137529, AK026592, AL049300, AK000618, AB048974, AC006313, A08909, AF026124, AR079032, AF130104, I89931, A08908, AL050277, AB051158, AL050116, AF138861, AF260566, U80742, AL389935, X72889, AR087170, AB019565, AF118064, AB048953, AF118090, AJ242859, E07108, AL133075, AK000310, AK025254, AF130077, AL162085, AL080057, AI2297, AL389939, Y10655, AF113689, AK026086, AL137557, X79812, AF113699, AL353957, U55017, AF219137, AJ238278, E00617,
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HDPFY18	113	779450	1 - 2173	15 - 2187	<p> AW792967, R41077, BF921165, AV750453, AA729108, AA715505, AW975570, AA714451, BF826980, and AW999989. </p>
HDPGE24	114	801947	1 - 2611	15 - 2625	<p> BE876192, AU145980, BE839859, AW953709, AV651029, AW866434, AW866436, AW866430, AV687299, AA604920, AA604512, AI887664, AW813014, BE839866, AA164729, AI566037, AA602341, AA602613, AA214047, BE839860, AI355441, AW855356, AA506540, AU119708, AW855353, AI884345, AV656490, AI049591, AW853687, AW995969, AI963674, BG058784, BF681462, BE811870, AA551394, BE081412, BE672638, AV687875, BE564307, AW935217, BE811892, BE145548, BE563924, AW577107, AV704081, AA631460, AW380640, AA366464, BG012149, BF694965, AW341886, AW866268, AI537997, F29519, AI537504, AI567884, BF874935, AV659506, AW363563. </p>

					AA631500, AI363970, AA669020, AI270484, H78415, BE709511, AA640505, BE178526, AI989765, AW866337, AW953693, AA484751, AA342969, BF882965, AA484783, AV659374, BE796439, AV695480, AV659391, AW024055, AV659405, AI832956, T81440, AA654981, R70506, BF852810, AA484906, AW997573, AW379425, AI932609, AA631380, AA570339, BE708328, AI597820, BF694852, BE815355, AW934969, AW902128, AV684943, AA366571, BG260565, AA632800, AW007894, AW192258, AI886084, AV764490, H82763, AW131401, T69164, AA605054, AW573583, AA834697, AW858120, AW893702, AW573573, AW074527, AV714931, AW820698, AI679343, AA558871, BF853927, AW438596, BF883928, Z32833, AA503427, AW393438, AA610678, AA522988, AA483882, R95100, AW893701, T59151, AW965008, AA848158, BE067011, T98359, T68422, AI679520, BF935516, AA528276, BE839943, BE929829, AL120269, AV759172, H02561, AV760701, AW802714, BE541237, N21656, AI457389, BE066950, T30343, AI679960, H78215, AV700663, AW978714, AL135377, AA243867, AW151713, AW102955, BF884208, AW157616, BF846275, BG034591, BF106210, BG011353, AA161288, BF883454, AC000353, AF001893, AC006121, AC005484, AP001710, AL035555, Z83822, AC022402, AI136139, AC005291, AC007225, AC007021, AL391259, Z98946, AL034372, AC008873, AF224669, AC006030, AL031311, AL122020, AL049759, Z94801, AL022318, AC008892, AP000555, AC002378, AC083863, AC002091, Z94056, AC005157, AL354720, AP001715, AL139109, Z97054, AF311103, AC002289, AC007450, AC007482, AE000658, Z84484, AP001724, AL109865, AC007850, AL137139, AL079342, AC018642, AC007773, AC007097, AL035685, AP000352, AL021368, AF111167, AC007363, AF088219, AC004125, AC018755, AL158828, AC026398, AL356652, AC005846, AC023510, AL049713, AC011742, AL163853, AL138743, AC007907, AC018682, AL138878, AL390025, AC006050, AB026898, AC004024, AC005214, AC002464, AC005046, AP000246, AP000207, AC007563, AC005520, AL031670, AL442167, AL163285, AC013734, AL021154, AC005881, AC005697, AL022165, AL391114, AL023513, Z98044, AC000094, AP000129, Z98304, AL391122, AL445435, AC003071, AF131216, AL360272, AC003962, AC020908, AL445669, AJ271736, AL034550, AP000782, AP000500, AC011464, AC011311, AL158196,
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					<p>U85195, Z93341, Z92542, AL034384, AP001728, AL031387, AC002994, AC022407, AL160231, AC007065, AC005539, AL050318, U91322, AL133415, AC010252, AL133500, AC008011, AJ400877, AL390738, AC006445, AP000688, AL133545, AL035089, Z98884, AC083871, AC007999, AP000350, AL354696, U80017, AC009600, AP001671, AL121997, AC007282, AL049779, AL163282, AP001412, AC022392, U82671, AC003091, AC005971, AL121905, AL158141, AL158198, AL160036, AL136303, AC004707, AF131215, AL132657, AC006965, AL161937, AC005969, AC018633, AC004764, AL359846, AF196970, AL137787, AC018769, AC000052, AF190464, AL137100, AL445248, AC008738, AC005670, AC010605, AC007541, AL049795, AL096712, AC006057, AC004019, AC006071, AC022201, AC008569, AC003049, Z84469, AP001712, AL109743, AF107885, AP000152, AC020550, AL049646, AL035405, AC009032, AP000515, AL137073, X87344, AC005216, AC004941, AC005049, AC004552, AL138756, AL078638, AC020898, AL109804, AP000501, AL354864, AC009299, AL136137, AC018719, AL450224, AC018639, AC026122, AC004966, AC005703, AL034380, AP001719, AC004963, Z98036, AC005288, AF196969, AC007151, AL031591, AL356379, AC023347, AL135841, AC024168, AP001730, AF205588, AL133480, AC006994, AC009194, AL355476, AP001696, AL158830, Z85987, AL049835, AC008812, AL121585, AP001727, AL050321, AC010291, Z97876, AC009016, AC008555, AL137818, AL035400, Z93015, AL121869, AC008733, and AC002365.</p>
HDPIU94	115	813352	1 - 2182	15 - 2196	<p>AU140297, AL529544, AL529545, AU124978, AI740820, AU116885, AU126162, AW960772, AI565169, BF111956, BG251247, BG177689, BE780814, AI628285, AA482031, BE784432, AA947029, AW954823, AW190175, AA315300, AU143854, AA707674, AI332610, NS0136, AU148736, AU127152, AW768480, BF947113, AA223261, AW955931, AI276839, AA189165, AA804584, AA767472, AA223378, AA894857, AA252718, R46372, AA939277, NS9367, AA219127, AA774827, AV762911, BE546354, N72682, AA219510, AV761697, AA872005, AW188325, W02461, R21326, AI923716, D29223, R68368, BF771937, BE769443, AA322537, R08745, AA417592, R08746, AW952240, AA299861, AW377015, AA337351, H60482, N76470, BF088734, AA218745, AA336556, BE896274, AI810734, AW118290, BF380800, T30177, D29202, BF910258, AA337527, AA336555, R68574, AI167609, AA376922, AW968355,</p>

					BF351657, AI832198, AW972092, AW968356, AW972093, AW968729, AI432644, AI623302, AW971740, AI432654, AI432650, AI432653, AW081103, AW858522, AW972091, AW969229, BE672759, AW972090, AI432677, AI431230, AI431307, AI431316, AI431328, AI431353, AI431312, AI432655, AI431310, AW128900, AI431238, AL045327, AI431354, AI432666, AA580821, AI431347, AI431315, BF448552, BE672748, AI432661, AL134524, AI431323, AI431337, AI432675, AI431321, AI492519, BE672745, BE672732, AI431246, BE672719, U46344, AI431235, AI431243, AI432647, AI432651, BE672738, AI431255, AI432674, AI431330, AI432649, BE672767, AI791349, AW601637, AI431248, AI431241, AL042842, AI431254, BE672774, AI431357, AL042729, AI432672, AI432665, BE672742, AL042931, BF589777, AI432662, BE672627, AW577201, AI431345, BE672644, AL042655, AI431351, AL042508, AI431231, AI431346, AL042853, AI432676, AI432673, AI432658, AW128884, AI431257, AW577199, AL042533, AL043166, AL047611, AI431340, AL135012, BE672622, BE672792, AI432657, AL042802, AW128846, AI431247, AI432664, AI432645, BE672718, AL042787, AL042515, AL042832, AI431751, AL043295, AI431314, AI492520, BE672634, BE672743, AI355008, AI492510, AL042898, AI431350, AL043091, AI431318, BE883591, BG167830, BE672749, BE672744, AI682915, AL040207, AW128897, AI866786, AW129223, AL042488, AI432643, AL043278, AK022626, AK001284, AX013107, AX013108, AX030435, Y17793, AX030436, AF064854, AL133074, AF019249, AL133053, AL133049, AL133076, AL122101, AR071207, AL133068, and AL133051.
HDPOC24	116	777493	1 - 1763	15 - 1777	BE795755, BE799575, BF346049, BE736856, BE735839, BE613439, BE295320, BG165897, BG028052, BE904063, BF525670, BG248216, AI762392, BE798809, BE876262, BE538403, BE541775, BE278995, BE867896, AI928014, BE735450, BE792862, AI302814, AI417544, AI861926, BE868781, AI620234, AI949339, AW292331, AA425932, AI635177, AA716408, BE964527, AI148619, AI188537, AI751315, AW298424, AI570424, BE019043, AI333093, BE563878, BG166956, AI679326, AI339585, BE208614, AI912361, AI199939, AI638579, BF035843, AA575835, AW562325, AW167212, AA613113, AJ403125, BE300704, BG230624, AA631882, AA654351, AI188665, AI744337, AI042080, AA554771, BF205494, AI751314, AI357368, N42873, AI623763, BE205782, BG015408, BF061667, AW296851, N73029, BE548655, AI080401, AI200653, AI346327, AI804793, AA723378, AI219032, AI923960, AW512977,

					<p>AI334021, BF739379, AI961597, AI933388, AW118019, AI750231, H49782, AW516158, W73379, AI682039, AW068519, AI199855, AI858410, AW275973, AW338079, AA856546, AW071218, AA428801, AI128328, AW026790, BE673142, AW513049, AA582918, BG056078, AA936754, AW513987, AA579898, AW192791, R55015, R80153, BF197452, AI738833, AU157028, AW627680, R62188, BG152556, AW516091, BG057769, AI538819, AW085840, AI500700, AW082065, BE614205, N34466, C75025, R55153, AW630976, R81484, AI687198, BE271478, AA975810, AI207300, BG253177, H13762, BE463629, H13709, AA983929, T97913, AI719056, AI203064, R80154, AI074832, AW104721, R47833, AA852278, AA812419, AA088385, R64576, AI362616, AW068781, W73403, R21634, AA553687, BE544315, D31024, W44598, BF346027, N33449, AA573257, AA857087, R49975, AI915025, AI382413, BF847025, R54690, AW591357, AW953807, N53663, BF752914, AA469380, AA469299, BF111939, AW301188, N50673, AW270044, BE549470, BE540690, AI673113, AI380538, AA364267, W39364, AW572002, AW080124, R81724, N42422, BE785221, D20947, BE966528, W44617, BF829622, W38340, AA948112, BE074077, AI137555, AK025951, AK025804, AX017614, and AK023580.</p>
HDPOL37	117	745377	1 - 1475	15 - 1489	<p>BF982675, BG257755, BE745491, AI521447, N24987, W85947, R25481, AV711665, Z42066, AI697574, AW856800, T07905, and AC009475.</p>
HDPOO76	118	838594	1 - 631	15 - 645	<p>AI631291, AL514675, BF446962, AI952912, AI082051, AI927718, AI817234, AW245405, AW575213, AI685485, AW574689, AI888313, AI928811, AA633918, AL536751, AW162001, AI521576, AI679267, AA603095, AW248663, AI671689, AI924805, AW169272, AW054977, AI684117, AI832595, AI922601, AW157761, AW075901, AI889359, AA669133, AA703928, AI758895, AI571907, AA669154, AI859391, AA554494, AI862750, AW574888, AW584019, AA633909, AA808156, AI355530, AI554282, AA809056, AI815905, AI983159, AI354570, AI819952, AW151518, AI084731, AI057539, AW081146, AI625578, AI924682, AI813754, AL048086, AI499158, AL037721, AA419273, AI700129, AL047695, AA553789, AI573001, AA528248, AI445750, AL533609, AI829209, AA526860, AI613217, AW474840, AA554506, AW069560, AI431443, AA570449, AI951113, AI951467, AW003625, AL534624, AW069492, AW673253, AI446757, AA554747, AV752260, AI357759, AI963287, AI754386,</p>

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HDPPD93	119	637588	1 - 687	15 - 701	AI767544, BF963878, AW391604, AW371053, AW391605, AW380560, BE150935, AW380557, AW609397, AV647627, AW609527, AV647628, BE150882, AA625481, AV647780, AW582425, AW582423, AA053357, Z39028, T31703, AI559952, AI962812, AW023035,

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HDPPQ30	120	684292	1 - 1049	15 - 1063	AL041375, BE140949, BE077105, BF880881, AA809125, AW177869, AI890297, AW338376, AA171400, BE328286, AA218684, AV683406, AI310670, AW902110, AA489390, AI523205, AI792092, AI760835, AI821056, AI821805, AI801563, AW901945, AA526542, AW902135, BF876674, AI819419, AW022796, AA084320, AI254267, AW504667, AW162314, BF530611, AA661583, AA515727, AA935827, AI521525, H62123, AW265006, AW021674, AA324108, AI609992, BF812696, AI174703, BG231195, AI310787, AI280535, AA720582, AI753904, AI984168, AA584493, AI349130, AW169183, AI609984, AW264548, BE245594, AI797998, AW020150, AW238341, AI568376, AI610012, AI572680, AI278440, AI277373, AA232928, AW020094, BE676856, AI609974, AA425283, AI224583, AW192419, F23338, AI926102, AW162332, AA555232, AW104161, AA804726, AW021399, BE676988, AA525753, AW971320, BF882222, AA167656, BF949151, AA689351, AA584241, AL044701, AW511778, AA557945, AW265468, AW328446, BG180320, AA568303, AA493546, AA807684, AA280886, AW855527, AI889995, BE063437, BE154909, AA568311, AI345566, AA599712, AW275432, BF870762, AA810158, AA182928, R23873, AA492496, BF904892, AI815583, AW674277, AI816537, AA636077, BE244308, AA595661, AW084445, AA657808, AW510403, BG152746, BF800073, AW962791, AA180056, AW243817, AA604601, F29968, AI344906, AI318548, AW085626, AI369076, AI860423, BF681222, AA610381, AV759517, AI915081, AW157128, R73744, AW571716, BF448553, AW303052, AA507623, AW129188, AV763650, AA703818, AL042667, AL042670, AA493808, AI733523, AA679946, AA578711, AW576299, R92703, AA347203, AW072963, AV706458, AW152439, BF792474, BF061241, AV764119, AI567676, H05066, AL022315, AC005531, AC005080, AC011475, AC008372, AC020626, AP001630, D28126, AL137073, AC011444, AL034548, AP001748, AC004967, AP001717, AC006121, AL034377, AL356299, AC002126, AC002544, AC007172, AP000359, AI137787, AC021016, U91326, AC007934, AC018751, AC009516, AC008736, X62355, AC005996, Z93241,

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HDPPW82	121	778405	1 - 538	15 - 552	AW971745, BE613349, BE612945, BE622828, BE613070, BE613136, BE614230, BE614307, BE614237, BE621911, BE622925, BE622931, BE622868, BE618811, BE620742, BE614451, BE620756, AV645401, AV645332, AV645383, AV645377, AV645379, AV645385, AV645389, AV645369, AV645380, AV645321, AV681527, AV645390, AV681501, AV645400, AV645392, AV645393, AV645404, AV645353, AV681458, AV681492, AV645358, AV681500, AV681509, AV681529, AV645334, AV681510, AV681528, AV681474, AV681514, AV645339, AV681477, AV681512, AV681471, AV681491, AV681526, AV681472, AV645336, AV645317, AV681507, AV681465, AV681525, AV681495, AV681505, AV681502, AV681504, AV681497, AV681486, AV681483, AV681464, AV681462, AV681487, AV681506, AV681523, AV681519, AV681488, AV681475, AV681461, AV681531, AV645343, AV681468, AR080280, I25027, AR054109, I44515, I26928, I26930, I26927, I25041, AR069374, AR069375, I44516, AR009152, AR091518, AX009487, AR093384, AR035224, AR009151, AR093392, I85513, AR027099, AR093383, A94046, A94054, AR038307, AR038321, I05393, A10617, AR028792, A01324, A01323, A32110, AR034783, AX030966, I63120, AR067733, AX009486, AX029455, AR064322, AR064323, AR064320, AR064321, A94048, A94061, AX027785, A49045, A83642, A83643, AX035462, AX003194, A70359, AR019094, A92666, A92668, I49890, A92667, A92665, AR083151, I05430, AX032758, AR019098, AR028791, AR028793, AR020199, AR020200, AR001287, AR020198, AR020197, AR029418, AR067734, AR067731, AR067732, AR029417, I89986, AX024906, AR018924, AR018923, A48774, A48775, AR000006, AR015960, AR000007, AR015961, AR051652, I09121, AR091393, AX008865, AX008867, AX008868, AX036660, AX036661, A91752, A91751, AR069413, A92081, A92080, A92077, A92078, A92079, AX030369, AX030368, AX033488, AX033489, AX033490, AR069417, AX033474, AX033486, AX033487, AX004550, A46342, A46343, AR055065, AR068508, AR068510, AR068509, AR091571, AR085090, I58322, I58323, AR003585, A91754, AX026821, A63067, A51047, A63064, A63072, AR031375, AR068507, AR068506,

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HDPXN20	122	801896	1 - 1742	15 - 1756	N21191, AI741932, BE044277, AI692969, AI983731, AI672447, AI857992, AI038996, AI458740, BF195297, AA427920, AI262839, AI765988, W56889, AI887830, BF362406, AA434553, AI356819, AA761182, AI580896, AW471229, AI823446, AI085255, AW194741, AI307821, BE326438, BE773018, AI264066, AI308228, AA767407, AI091515, AA041413, AI378900, AI304782, W96055, AW503114, N27464, AW083746, AA649056, BF056407, N25472, N35407, H97047, AI467835, N30427, N33490, AA041373, AA772673, AW002681, AI823937, AI862591, H44561, AA889405, BF359827, AI085858, H96914, AA706666, H42751, N36137, W96056, AA843336, H38964, H44562, H42715, N29396, AA694566, N41456, BF362424, AW504612, AA743367, BF362433, AA872539, AA846429, N20120, N24547, N48040, BF362395, N59329, AA889895, AA370649, AW954030, AA889404, AA737038, W40480, AA890575, and N43881.
HDQHM36	123	852328	1 - 1533	15 - 1547	AA287570, AA255853, AI361900, AV763026, AV763058, BG164602, BF965394, AW105346, BG164455, AI570805, AW088846, AI754653, AA600202, AC003962, AC005081, AL035658, AC007957, AC009060, AL109984, AC004671, AC000134, AC002288, AC005488, AC006483, AC011895, AC024561, AL121928, AL022476, AC005531, AC005332, AC010311, AC011475, AC002310, AC004686, AL050318, AC004965, AC020904, AC011491, AP000555, AC004985, AP000557, AL139150, AC005919, AC011495, AC005231, AC009228, AC021036, AC010605, Z83822, L78833, AL049872, D87675, AF053356, AC006120, AC005911, AC005280, AL157938, Z85986, AC005015, AL022326, AL080243, AC009123, AC007216, AC083866, AC027319, AC004477, AC020916, AC004408, AL034549, AP000558, AL035072, AL121655, AL139331, AC020917, AL133387, AC002316, AL109825, AP001717, AL121845, AC005940, AC005702, AC009516, AC005971, AB023049, AC004812, AD000092, AC009756, AC008805, AC008403, AL121897, AL022328, AL121753, AF045555, AC008569, AC005098,

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HDTAU35	124	838139	1 - 363	15 - 377	<p>BE877146, AV725709, AV756682, BE881230, AA469321, AV654282, AV702947, AI064816, AA467922, BE878467, BE876183, AV726503, AV715748, AV705443, AI557222, AV757055, AV724819, AV662257, AV717185, AV727472, AV705433, AV706584, AA467864, AV759547, AV726938, AV721822, AV701879, AV758197, AV707611, AV729255, AV725529, AA533928, AA467872, AA467983, BE874492, AL047841, AV759063, AV738071, BF942332, AV653804, AA467862, AI698669, AV692176, BE877083, AV762317, AV722499, BG222560, BG222322, BE875275, BE880733, AA657843, AW243938, BG231240, BE873792,</p>

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HDTAV54	125	801898	1 - 646	15 - 660	BE905151, BF984756, AW575222, AA857473, AI582212, BF195707, AW170331, AW055239, AI475967, AI453132, BF981150,

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HDTFX18	126	801957	1 - 664	15 - 678	AW575183, AW974444, AA648314, AI333378, AA127246, AI420860, AA126528, AW444733, AA456498, T71325, AI367303, T71474, AI914547, BE152935, BE746002, AI273148, AV759517, T46997, AL391259, AL353748, AL135928, AL138717, AC008812, AL138752, AC010311, AC006146, AC020898, AJ009616, AL031664, AC008733, AL022302, AL135749, AP000355, AL078463, AC006329, AC006160, AC004447, AC007664, AC027319, AC008543, U80017, AL031390, Z98941, AC000353, AL359457, AL162458, AL133418, AL355916, AC006132, AC008569, AC004021, AC006312, AL035252, AC005015, AC009194, AC010636, AC005610, AC008806, AC005209, Z99716, AL050349, AC008623, Z84487, AL136300, AL080317, and Z97630.
HDTGW48	127	827285	1 - 2247	15 - 2261	N77861, AA446468, AA447582, AW897045, AI767857, BF892068, AI968642, AI363143, BF848630, AI134671, AA430143, AA315922, BE890577, AL119770, AA448081, AA861235, AL138804, AB042624, AL049634, AL109809, AL034562, Y10376, E15703, D86043, Y10375, AB023430, Y11047, U06701, and AC004832.
HDTLM18	128	836057	1 - 511	15 - 525	T62863, and AL049843.
HE2CA60	129	770301	1 - 1649	15 - 1663	AL535023, AV711225, AV721596, AV658809, AV658785, AV693513, BF576888, AI140773, BF677857, AV727366, BF448157, AI302186, AW770389, AA215792, AI888667, AI337827, AI573244, AW173639, AI870916, AI635189, AI678655, AV748873, AI379341, AI417164, AI023944, AW769389, AW021198, BF693869, N39649, AA593881, AI538428, BE350890, AA527258, AA446972, AV725444, AI673388, AI160026, AW084026, AW166928, AI246492, AI865154, AW006994, AA535263, AA278438, AW960741, AW958219, N50839, AI598040, AV726287, AI567526, AA568228, N90778, AA780953, AW467601, AI038481, H27220, AA253481, W93347, AA232931, BE439630, AA932649, AA716259, AU126984, AI673834, AI080112, AW190288, AA234891, AU158056, AI953472, AA814625, AI289270, AI702014, AI446206, AA075083, AA232943, AA621767, AI961349, AI288409, AA075001, AA573515, AV686052, AI470257, N75631, N22393, AA906650, AW296240, AA598599, H28574, R87834, C20658, AI514917, BE177263, BE089894, BE089889, BE089884,

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HE2CA60	130	888705	1 - 3020	15 - 3034	<p>AL535023, AL514917, AV727366, AW960741, BF970019, AV711225, AV658809, AV721596, AV658785, AU126984, AV693513, BF129964, AI140773, BF576888, BF929570, BF102505, BF677857, BF697387, AW006994, BF448157, AI302186, AW770389, AI888667, AA215792, AI337827, BF701132, AI573244, AW173639, AI870916, AI635189, AI678655, AI379341, AV748873, AI417164, AI023944, AW769389, AW021198, N39649, AA311424, AA593881, BF693869, AI538428, BF343015, BE350890, AA527258, AA446972, BF693703, AI673388, AV725444, AI160026, AW166928,</p>

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HE2CH58	131	838140	1 - 795	15 - 809	BE748872, AW072415, BF431026, AI700497, AW304733, AI077574, AA923280, AI567916, AV757311, BF108517, AA224592, H54698, AW798753, BF893408, AI671211, BE552302, AI097097, AW976608, T59834, AW339710, N33473, BG113188, BE910373, AV733397, BE876029, AL514879, AV760225, AL514793, AL513907, AV702117, AW673679, AI889306, AI590227, AL079963, BF970652, AI698391, BE965621, BE543089, AI537677, AW074172, AV712672, BF812938, AI433157, AI702073, BF814412, BF812961, AL036403, AV702147, AV706624, AI633125, AI627988, AI815232, BF032768, AV727238, AI815855, AV723772, AV753074, AI677796, AL513755, BF856052, BF924869, AV729940, BF812960, BF725644, AL514791, AL048656, AI923989, AV702994, AI439256, BE885353, AI536685, BE393551, BG029667, BF338002, AL514359, AL045500, AI521560, AI249497, AI567883, BF968558, BE964614, AW827289, BE789764, AL514129, AV650024, AV647670, BF814453, AV716471, AV756026, BE047852, BE965121, AV647773, AI889189, BG121959, AV708834, AL036361, BE018334, AL513693, AW026882, AI491775, AW087445, AV647121, BG163618, AI475371, BF822127, BF726183, AW238730, AV692691, AV711924, AI637584, AL036631, BE907151, AI537273, AI682971, AI469532, AW104724, BE877769, AI207510, AW827206, BE965599, BF343205, AW104827, BF925729, AW129659, AV652443, BG029829, AI582558, BG167098, AV756078, AA259207, AL514701, N33175, AI819326, AW148408, BF344031, AV681684, BF527014, BF814450, AV723204, AV757018, AW963492, AL036802, AI802542, AV723062, AI567582, AI610690, AL513597, AI632408, AV728855, BE048026, AI619502, AL119863, AI954183, BE876539, AL514691, AL514867, BG180996, BF965936, AV654896, AI611738, AW160376,

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HE2CM39	132	553651	1 - 552	15 - 566	AW138760, BG236171, AI928443, AI264363, BF432779, AA581388, BF446513, AW170385, AI366182, AI970247, AA854958, AI354301, AI081061, AI140964, AW243493, AW104079, AI366181, AA732881, AI039682, R46377, AA425694, H11979, AI871576, AI082699, AA428526, AW207325, H72841, AI767870, N35990, AW168999, AI537179, AI678150, AW972093, AI823218, AA405499, Z39960, AI191091, AA626013, AW139286, F03140, AA890408, AI349325, AI871195, AW088879, AI914847, AI192077, AW090285, N95266, AA788656, BE674514, AI634559, AI269823, AA894693, BG109270, AW806761, BG029829, BE965355, AI623941, AI537677, AW169784, AW161156, AI918449, AI538885, AI521005, BF061283, BF853807, AW059828, AI345688, AV743631, BF342261, AI866820, BE138644, AW161579, AI587121, AW302992, BE789764, AI540759, AI348917, AI540674, AI581033, AI349957, AI345005, AW827289, BE048087, BF924855, AL120853, BG164558, BG151388, AW827227, BF812936, BE964614, BG031664, BE047952, BF751347, AW072719, AI648567, AI621341, AI310940, AL041016, AI567582, BE904096, AV750565, BF339322, AW023338, AI698427, AW074869, AA641818, AI859991, BE620444, AV736808, AI874166, AI434741, AV756122, AW268302, BE544111, AI310575, BE878735, BF750879, BG107576, AI307736, AW089275, AI349645, AI919593, AI799674, AI559872, BE910373, AI580674, AW089572, AI568060, AI340533, AI670009, AI921254, AI917963, BE543089, AI890507, BE887488, AI690748, AI340511, AI345608, AW162194, AI473451, AI933992, AW302954, AI800473, AI572717, AL037558, BF753023, BE256001, BE879396, AI288285, AL040241, AI345253, BF680133, AI307494, AI539153, AW151136, AW044029, AI345677, BE138658, AI446373, BE895585, AI340627, AW163834, BE974031, BE963286, AW020095, AV741327, AI494201, BF699668, AI538878, AW263804, BF339594, AI251830, AI813633, AI345745, AI348854, AI345471,

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HE2HC60	133	753265	1 - 1555	15 - 1569	BG259270, AI819062, BE877587, AW961540, AW137042, AA218870, AW268435, AU159649, AI914414, BF571164, BF571923, BF667479, AW960460, AI290998, AI805453, AW859986, N42226, AI143590, AA453340, AW021609, AW859994, AI961984, AA534880, AA478622, AA805995, BF102972, AA478879, BF910659, AI859003, AI279728, AW083409, AA022968, AW820411, BG250380, AI971338, AU125044, BE940037, AA810040, R35417, BE940013, BE940009, AA909119, R71284, T17061, H30337, W27642, AW820415, BF913401, BE698731, H97022, BF243145, BF002853, AW604825, R13747, BE174730, AA600911, AI086130, R19923, T87426, AA330024, AI092372, C01331, AI224398, AI743639, N41982, AW051138, R14406, AI439708, BE694190, AA461371, T99701, R08328, AW752484, AW752492, AI382652, R16157, BE934080, R58882, AI061448, AA252088, R08381, BF088818, BF088814, AW500586, AW820413, BF913396, BF229364, BE880142, AI620838, BF088832, T99096, BF229365, BF589424, AA327941, T77110, AU128772, BF356534, AA091602, AU154390, AU124136, AI697789, AA738469, BE856271, AU151002, AA588155, AU148839, AU142302, R44163, AI624125, AW368233, AI086357, AI859524, AI922561, AW129230, AW085786, N30259, AI567351, AW081311, AI611743, AI611348, AI358042, AI567582, AI135024, AI520785, AI922707, BF814449, BE965169, AI242248, AI688858, AI521095, AI889376, AI570966, AL514473,

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HE2PO93	134	771655	1 - 1309	15 - 1323	<p>BG250792, BF340156, BF691370, BE958544, AI913576, BE892390, BE467084, AI769974, BF978990, AI985726, AI978876, AA805536, BG114463, BF976892, AI879646, AI640283, BF212660, BE813503, BF212750, BE245388, AI151263, BE813657, AW994769, AI474103, BF326782, AW078667, N66384, BF382578, BE881936, AI268780, AA137260, BE865738, AW118966, AI690850, BF211945, AA150376, AW020353, AI218961, AI458422, AI758351, BF030723, AA631892, AI350813, AW079202, AI038862, AA150275, BF082705, BF240677, AA912346, TI7277, BE003683, BE813513, AW468933, AI003046, BE048238, AA137259, AI208534, BE770261, R77850, AW955572, BF743116, AW183342, AL047998, AA928199, AI282290, AL047999, R77760, BF215622, AL121406, T34660, H60032, BF336987, AA362660, AA330116, Z40410, AW370452, AI473113, AA306043, AA343807, BF235959, AA621093, BF240906, BF887439, BF886985, R40472, N52225, AW168049, AA789087, BE770101,</p>

					BF885967, AL534441, AA962715, BF212646, N73192, BE871372, BE715872, and AC007911.
HE6AU52	135	562782	1 - 831	15 - 845	AV755215, BF824908, AV757088, BF131961, AV756554, AV702854, AI950092, AV757752, AW134795, AA181890, BE968824, BF030662, AV723324, BF592559, AA076491, BE710615, BE172131, AV722114, BE867615, BF695678, AV726849, BF676359, AL036773, BE172128, BF131261, AV704987, BE677135, AI862573, BE875610, AV702869, AW857491, BF576860, AW857509, AB050152, AB050154, AB050155, AB050153, V00710, X62996, D38114, X93347, D38112, AX039612, V00662, X93334, AB050147, AB050148, AB050149, AB050150, AB050151, D38113, X93335, and D38116.
HE6CS65	136	762960	1 - 1512	15 - 1526	BG114804, AV718161, BG115294, BG163956, AW362005, AW579708, AA425593, AV732860, AA778426, AW367244, AL537244, AW856936, BF377273, BE675130, BG119784, BF978611, AA194252, AI937228, AW292921, AI222740, BF349929, AW856088, AI348188, AW665835, AA025880, BF333804, AW005582, AI139606, AI126585, AW959277, AI417243, AI339985, AI972128, W52543, AA829354, BF333819, AI078819, AV752850, AW857034, BE789386, AI299395, AW675446, AI083537, AW516855, AA035526, AW005637, AA932845, AI088259, AI492529, BF375157, AI334135, AI682947, AI753237, AI923621, AA425629, BF804458, AI628857, AI635633, AI085676, AI580195, AI138968, BE350523, AA005425, BF333807, AW102884, W52544, AI022376, W39677, AI920867, BF333811, AI240384, N49885, AA227905, AI087384, AI302240, AI933336, AI670129, N98508, AI268859, AA232843, AI221780, AA253379, N71409, AA004925, BF761279, AI066394, BF811217, AI302764, AA311893, AW571609, AI080166, AI299456, AA844294, AI342664, AI147714, AA464423, T60255, BF807121, AA765193, H29427, AA876118, AW265722, AI074827, AA808646, AA193122, H43349, AA233282, AI693779, AI245406, R60024, AA005426, AA995705, AW302271, AA934521, AI061151, AW366962, H38317, T90537, AI445689, W44818, H12893, AI446122, AA253378, H78422, AW378644, AI753445, R44689, N99734, AW102871, AA719170, AA464422, AA974340, H78222, AA934622, AW149309, R68103, AW265649, H40537, AA807276, H43181, AI277059, T34512, AA430350, BE539364, AI076849, AA347001, T81330, BE049268, H26609, AW589372, BG231066, AI092386, R24873, R43362, Z40090, AA334085, AW378680,

					N31595, H58243, R68147, AA257048, AA004926, H12894, AA886683, BF593823, F02035, AI559907, AW062917, N49990, H43311, AA295950, AI364249, R52133, BF748425, BF804455, AA778257, AW379516, T81506, AI080028, AA347002, BF377711, T83072, AL134712, H26654, BE082628, BF131565, AA227588, BF092102, BE774491, BF092109, AI382725, W63710, BF807108, F01928, BF858654, W31073, AA169731, AW367337, AA936648, AA193460, AW378675, H43212, BE082824, BF858661, AW864790, AA946635, T61637, AA304629, R17644, BE047631, AI867081, T24808, AA293625, R52222, AW890658, AA425423, BF929843, BE888442, C02346, Z99943, and AK024700.
HE6DO92	137	562767	1 - 927	15 - 941	AI654705, AI364854, AC007276, AL117337, AF205588, AC009533, and M32788.
HE6EY13	138	847058	1 - 853	15 - 867	AL530721, AL519666, AL514911, AI923443, AL535119, AL535118, AI634953, AA430386, AW517144, BE616833, AL527421, AW517152, BE531183, AI097033, AL535616, AI127186, AA652668, BF338122, BE279508, AI143875, BE733522, AI950068, BE884261, BE885582, AI936768, BF967004, BE791841, BE548506, AA746044, AA489517, BE562991, AI074208, AI934851, W30776, AW996278, AI160804, AI744978, AA427865, H45798, AA935040, BE538131, AA832261, AA806434, BG028236, AA284883, AI817348, AA873636, AW162266, AI929800, AW172820, AI380091, AA708347, AI815068, AI024256, AA612964, AW770463, AI278531, BE349544, BE674988, AI635843, AW513137, AW673233, AI816986, BE328782, BG028440, AA680312, AA825323, BF589632, AW003379, AA039332, AW071157, AW770382, AA588835, AI346987, BG056404, AW152092, AA041377, BE350556, AA287368, AA653509, AA477128, AI367990, BE465583, BF448228, BF115287, AW044578, AI126677, AA464570, AA436429, AI808213, BE855808, AI720049, AA931271, AA659795, W74217, AW328731, AA476577, BE328785, AW383962, BE182231, R37644, BE787814, AV721687, BF094301, AW470212, AA287506, AI200308, AI364059, N32773, R89303, AA832337, AW471418, AW513522, AA954681, AA838218, AI241959, AW664499, AA868075, BF448848, R81187, AI356580, AA489518, AI129242, H78214, AL519667, AI016411, R53087, AA081185, BF526124, AI383729, W42678, H72970, R82993, BF316834, AA368569, BE743124, AI279385, BG166378, AW190970, R48835, AA411549, AI530722, AI219019, R53178, AW966111, BF445577, AA081295, R24417, R24418, W31318, AI538499, AW996589,

					<p>T58548, H78414, T58603, AI445933, AI016436, AA129279, W15647, AA284614, AI091508, BG011177, AI379130, AI932650, T51003, AI471390, AA291664, N41774, AV687942, BG235946, AA085871, BE925426, AA041417, AW328667, AI623391, N78993, AI583034, AA843275, W52667, F25719, AA429288, BE301645, BE834416, AL514912, BE174918, BE968515, H59109, R48834, F35772, AA586340, AW578658, AI343882, T51093, AA477374, C01852, AA405255, T50155, BF514095, BE834467, AW796725, H59149, R87518, R81293, AA284321, W52668, R27171, AA079066, AI075102, T85430, BF920577, N84553, BE018163, BE720127, BF337914, AW009389, AW196302, AA749379, AI343898, N92435, C05210, AA448899, AA975241, BE926998, C05561, AA352634, F20646, AI185675, AA290807, N94429, AW301144, R13786, AA421159, BE834085, AW291918, BF365442, AW591712, AA592907, T83974, AI420624, AI074236, AA761016, AA514243, AA557505, AA678902, AA464673, AA483524, AA568565, AW516923, AA385487, AX015358, AJ011916, AC003688, and AC020893.</p>
HE6FU11	139	827236	1 - 1986	15 - 2000	<p>AA992948, AI638341, AW134923, AI038302, H54037, AI581139, AJ007581, AJ006140, AF314058, AL021578, AB027710, and AB024964.</p>
HE6FV29	140	588454	1 - 1512	15 - 1526	<p>AA984763, AA406303, AA599164, AA600957, BF922107, AL046225, AI623434, BF760969, AI890702, D29050, AP000114, AP000046, AP001717, AC006039, AL078463, AL035460, AC060232, AL161730, AC010198, AC005099, AC020906, AL117377, AC004841, AL161937, AL161781, AL391260, AL158828, AP000302, AC007193, AF123462, AC027644, AC006254, AL035662, AL139396, AC004084, AF008191, X55448, AL355916, AD001502, AC005082, AC005399, AC003030, AL121715, AP000282, and AP000108.</p>
HE8FC45	141	843781	1 - 1873	15 - 1887	<p>BE158620, BE799618, BE158618, BG059560, BF375462, AW962846, BF678424, BG006611, BF872452, BF964533, D44965, W07700, AA643257, BF839874, BF964532, AW814824, AA804480, AI609282, AW236834, AW589868, D44966, AA311568, BF766659, D44969, BE091836, BF115004, AA076762, AW204636, AA078438, AW361973, BF375899, AA078460, AW373283, AW749680, AA634301, AW749679, N80671, AW373284, AV728369, AW963489, AA077297, AW966064, BE379152, BF949151, AU151751, AV729090, BF766657, AV728973, AW962268, AL515875, AA078234, AW962942,</p>

				AV707794, AV653153, AV702109, AW970588, AV706891, AV652936, AI174703, AA601208, AV654027, AV708179, AV706448, AV702625, AV703460, AW021674, AI457152, R23873, AI433952, AA199578, AI635440, AA640305, BF681222, AV730869, AW151247, AW962388, AW878297, AW964231, BE328286, AW961593, BE842819, AV759717, AI801563, BF876261, AW956640, BF880881, F23338, AA493546, AC005488, AC004878, AC005098, AC007000, AC004166, AC005080, AC004084, AC005088, AF030453, AC018720, AC004980, AC006014, AC004867, AC005071, AC007078, AC006480, AK024602, AL353807, AL109797, AC007956, AC020904, AC007216, AC027319, AC002310, AC005519, AL133448, AL133163, AC005412, AL020993, AC018758, AC006329, AC005619, AL033529, U95742, AC083871, AC004019, AC068799, AL031728, AL096840, AC005736, U91323, AC005620, AC000353, AL049569, AC005740, AL031120, AC017047, AC011455, AC007263, AC005666, Z93015, AL133396, AP001716, AC004859, AL031587, AC010271, AC005049, AC002425, AP001714, AL132987, AC005081, AL161731, AP001728, AC007371, AC002288, U52112, AP000501, AC006023, AC016395, Z97056, AC007225, AC006509, AL163279, AC005225, AL356299, AC000052, AC004847, AF190464, AC011470, AC008752, AC011479, AL355497, AC009331, Z95115, AC008569, AF134471, Z95113, AC004929, AL161670, AL135839, AL135749, AL049830, AL050335, AC004834, AC010463, AC008623, AL109743, AC005632, AC004491, AC005899, AC008649, U73644, AL133467, AC007597, AC004531, Z84487, AC004659, AC011442, AC002544, AP001711, AC006115, AC004106, AC005874, U91326, AP001727, AD000092, AC018801, AL121886, AC022392, AC005095, AC005207, AC024952, AC005011, AL158198, AC005288, AL109758, AF053356, AL109965, AL024507, AL096791, AC011742, AC005399, AC008372, AC004890, AC022517, AL049795, AP001725, AC008403, AC004832, AC003007, AC007383, AL133382, AL121754, AL162430, AC004383, AC011484, AL022476, AL133354, AL136300, AF254822, AC005037, AF196779, AC004477, AC007546, AL050348, AC009314, AL022326, AC018663, AL035400, AL163249, AC020908, AC006345, U63721, AC004134, AL499628, AC010553, AL133545, AF168787, AC009228, AL138836, AC000120,
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					AL049776, AC002312, AP001717, AC005261, AC004526, AC008560, AL121752, AC002115, AC018644, AL050318, AC004858, AC006504, AL132653, AC004967, U95739, AC006483, AL117377, AP000553, AC007298, AC004985, AC005944, AL353777, AL122001, AC010328, AP000689, AC004596, AC011497, AC005695, AL080249, AC004686, AC004587, AC010422, AC005696, AL118520, AP001719, AF243527, AL031283, AC011469, AF109907, AC020916, Z84480, AC006511, AC005730, AC011475, AC005828, AC006006, AC034242, AC006960, AF001550, AC006958, AL031767, AC068499, AC006111, AC016830, AL080243, Z82203, AL035422, AL136137, AL391839, AL121601, AL022323, AC008119, AC020913, Z98200, AL157827, AC005210, AC002126, U91321, AL031281, AC008738, AC007151, AC005726, Z85987, AL009051, AL109798, AC009086, AA077478, and AA078336.
HE8FC45	142	845672	1 - 1873	15 - 1887	BE158620, BE799618, BE158618, BG059560, BF375462, AW962846, BF678424, BG006611, BF872452, BF964533, D44965, W07700, AA643257, BF839874, BF964532, AW814824, AA804480, AI609282, AW236834, AW589868, D44966, AA311568, BF766659, D44969, BE091836, BF115004, AA076762, AW204636, AA078438, AW361973, BF375899, AA078460, AW373283, AW749680, AA634301, AW749679, N80671, AW373284, AV728369, AW963489, AA077297, AW966064, BF379152, BF949151, AU151751, AV729090, BF766657, AV728973, AW962268, AL515875, AA078234, AW962942, AV707794, AV653153, AV702109, AW970588, AV706891, AV652936, AI174703, AA601208, AV654027, AV708179, AV706448, AV702625, AV703460, AW021674, AI457152, R23873, AI433952, AA199578, AI635440, AA640305, BF681222, AV730869, AW151247, AW962388, AW878297, AW964231, BE328286, AW961593, BE842819, AV759717, AI801563, BF876261, AW956640, BF880881, F23338, AA493546, AC005488, AC004878, AC005098, AC007000, AC004166, AC005080, AC004084, AC005088, AF030453, AC018720, AC004980, AC006014, AC004867, AC005071, AC007078, AC006480, AK024602, AL353807, AL109797, AC007956, AC020904, AC007216, AC027319, AC002310, AC005519, AL133448, AL133163, AC005412, AL020993, AC018758, AC006329, AC005619, AL033529, U95742, AC083871, AC004019,

					AC068799, AL031728, AL096840, AC005736, U91323, AC005620, AC000353, AL049569, AC005740, AL031120, AC017047, AC011455, AC007263, AC005666, Z93015, AL133396, AP001716, AC004859, AL031587, AC010271, AC005049, AC002425, AP001714, AL132987, AC005081, AL161731, AP001728, AC007371, AC002288, U52112, AP000501, AC006023, AC016395, Z97056, AC007225, AC006509, AL163279, AC005225, AL356299, AC000052, AC004847, AF190464, AC011470, AC008752, AC011479, AL355497, AC009331, Z95115, AC008569, AF134471, Z95113, AC004929, AL161670, AL135839, AL135749, AL049830, AL050335, AC004834, AC010463, AC008623, AL109743, AC005632, AC004491, AC005899, AC008649, U73644, AL133467, AC007597, AC004531, Z84487, AC004659, AC011442, AC002544, AP001711, AC006115, AC004106, AC005874, U91326, AP001727, AD000092, AC018801, AL121886, AC022392, AC005095, AC005207, AC024952, AC005011, AL158198, AC005288, AL109758, AF053356, AL109965, AL024507, AL096791, AC011742, AC005399, AC008372, AC004890, AC022517, AL049795, AP001725, AC008403, AC004832, AC003007, AC007383, AL133382, AL121754, AL162430, AC004383, AC011484, AL022476, AL133354, AL136300, AF254822, AC005037, AF196779, AC004477, AC007546, AL050348, AC009314, AL022326, AC018663, AL035400, AL163249, AC020908, AC006345, U63721, AC004134, AL499628, AC010553, AL133545, AF168787, AC009228, AL138836, AC000120, AL049776, AC002312, AP001717, AC005261, AC004526, AC008560, AL121752, AC002115, AC018644, AL050318, AC004858, AC006504, AL132653, AC004967, U95739, AC006483, AL117377, AP000553, AC007298, AC004985, AC005944, AL353777, AL122001, AC010328, AP000689, AC004596, AC011497, AC005695, AL080249, AC004686, AC004587, AC010422, AC005696, AL118520, AP001719, AF243527, AL031283, AC011469, AF109907, AC020916, Z84480, AC006511, AC005730, AC011475, AC005828, AC006006, AC034242, AC006960, AF001550, AC006958, AL031767, AC068499, AC006111, AC016830, AL080243, Z82203, AL035422, AL136137, AL391839, AL121601, AL022323, AC008119, AC020913, Z98200, AL157827, AC005210, AC0002126, U91321, AL031281, AC008738, AC007151, AC005726, Z85987, AL009051, AL109798, AC009086, AA077478, and
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					AA078336.
HE8FD92	143	888274	1 - 1981	15 - 1995	AV650921, AV649666, AV649944, AA401244, AI768623, AA404260, AW138481, AA463288, R97631, AI569997, AA448916, AV649926, AV649742, AV649875, AV649995, AA463197, AV662147, AV662120, AW628774, AI247468, AA449426, H65563, H65354, AI915250, AW263449, AV734255, AI675925, R43379, AW241206, AI865471, AI439074, BE046420, AI096566, AI520933, AI859769, AW969050, AA946853, AW873118, R41620, AI241864, AW338767, AL037725, AI979070, AI804043, AW002717, AA504467, AI076757, C01293, and AL022240.
HE8FD92	144	843825	1 - 2894	15 - 2908	AV718334, AV650921, BF793347, BF793887, AV969050, BG180624, BE621758, AL037725, AV708063, BE892224, AL045344, AV708871, AV649666, BG110357, AV721974, BF740216, AI888249, AV649944, BE613500, AI814624, AL043485, AV705742, AA401244, AW614902, BE614234, W95853, AW167131, AI768623, BG260973, BE551076, AI800419, AA404260, AL040955, N32025, BF028570, BF980034, AI523819, AW020997, AW196856, AW069571, AW664296, AI804043, AW439581, AI859769, AI979070, AW873118, BG028790, AW173627, BF965913, AW470149, AI954566, BE299495, AI920788, AI923608, AI096566, AW138481, AA777093, AW168867, BE350092, AI872178, AL040146, AI634706, AW196804, AI400065, AI983052, AL044108, AV762287, AW874528, AI080172, AI073801, AW963612, BG107927, AA614709, AA134828, BE349345, AA463288, AA953123, AI589346, AW261884, AI026817, AI654244, AA932332, AW002764, N51228, AI435532, AA725887, AI685954, AI247070, R97631, AI142752, AI473795, W81307, AA962014, AI916323, AA946853, AI000904, N69326, AI569997, AI445189, AW193468, AI420632, AI274717, AI471592, AA134827, W94957, AI077452, AL040335, AA868559, AW675613, AI675925, AA504467, AI241864, AI826322, AA448916, AV649638, BE966521, AA872701, AA398843, BF940653, AI865471, AW474946, AI088270, W45368, W94444, BE046420, AV649926, AV649742, AW020365, AW241206, AV649875, W94259, AA431829, AI439074, AL045559, AV649995, BG028439, AI094039, AI174662, AA494404, AI520933, AV662147, AI125505, AI167605, AI149616, AI913467, BF197860, AA431425, AA975219, AA635251, BE816681, AI811787, AA463197, AV734255, AV662120, AI368857, N69549, H29599, AA630621, AI290084, AA665721, AW905752, AA805073, AW628774, BG122157, BE349313, AI677962, AA912279, AW339689, BE542745,

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HE8FD92	145	856544	1 - 4893	15 - 4907	AL531145, BG252727, AL043174, AL041585, BG260973, BG180624, BG122157, BE887548, AW948984, AW950907, AI905469, BE869433, BF965913, BG120463, BG032175, AV650921, BF793347, AW955266, AV718334, BE148077, BG110831, BF793887, AL040954, AV698723, BF204516, BG121940, AL044107, AW969050, AL045343, AV649638, BE615208, BF340650, BE620934, AL037725, BE892224, BG169462, BG029744, AW173183, AV708063, AL045344, AF074638, AW577782, BE621758, AV708871, AL043132, AV649666, BE902799, BE299942, AV653240, AL045522, BE615086, AV649944, BE613500, AL037724, AL043485, AI978625, BF740216, BE540375, AI888249, AI814624, BE732345, AA401244, AV721974, AV705742, BE535411, AV762287, BG117844, BF797590, BE614234, W95853, AW614902, BF205050, AI768623, BE542745, BF844095, BF475411, BE615260, AA404260, AW167131, AL040932, BE551076, AI800419, AW851278, BF891913, AL040955, AW468429, BF980034, BF028570, BE147946, BG110357, N32025, AA315005, BG117929, BE162196, AW170075, AV689195, BG036364, AW468059, AI890858, BF378885, AL048907, AI523819, AW020997, AI570017, BF327001, AW196856, AA488658, AW948982, BF219231, AI624566, BE156276, BF839881, BE140097, AW069571, BG028790, AW965356, AW664296, AI804043,

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HE8FD92	146	869847	1 - 4088	15 - 4102	BG252727, BG260973, BG180624, BG122157, AL531145, AW948984, BE887548, AW950907, AI905469, BF965913, BE869433, BG032175, AV650921, BF793347, AV718334, BE148077, BG120463, AW955266, BF793887, BF204516, BG121940, AW969050, AL045343, AV649638, BE620934, AL037725, BE892224, BG169462, BE615208, AV708063, AL045344, BE621758, AV708871, AV649666, AV653240, BE613500, AV649944, AL043485, BF740216, BE540375, AI814624, AI888249, AV705742, AA401244, AV721974, BG117844, BE615086, AV762287, BE614234, W95853, AW614902, AI768623, BE542745, BF844095, AA404260, BE615260, AW167131, AL040932, BE551076, AI800419, BF891913, AW851278, AL040955, BF980034, BF028570, BE147946, N32025, BG110357, AA315005, BE162196, AV689195, BF378885, AL048907, AI523819, AW020997, BG036364, AV698723, AW196856, AW948982, BF219231, BF839881, BE156276, BE140097, AW069571, BG028790, AW664296, AI804043, AI979070, AW439581, AI859769, BF836425, BE090183, W95142, AW382691, AW873118, AW966417, AA431381, AW173627, BE299495, BG028439, BF836432, AW470149, AW401596, AI954566, AW138481, AI923608, AI920788, BF832429, AL040146, AL044108, BG179393, AI096566, AL037724, AA777093, AW168867, BE350092, AI872178, AI634706, BF571648, AW196804, AI200933, AW963612, AI983052, W94444, AI400065, AV728394, BG107927, AA463288, AW874528, AA625480, AI074015, BE537489, AI080172, BF757706, AI073801, AA614709, AA725887, AI134828, BE349345, AV649957, AA953123, AW261884, AI589346, AI026817, AI654244, R97631, AI473795, AA932332, AA962014, N51228, AL043132, AW002764, AI435532, W81307, AI685954, AW382688, AI142752, AI247070, BF725969, AI445189, AW954051, BE765108, AA774786, AI420632, AI569997, BE764894, AI348365, BF433144, AA946853, C17016, AI000904, AL040335, AI916323, N94040, AI134827, N69326, W94957, AW193468, AI274717, BE181110, AI471592,

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HE8FD92	147	901142	1 - 3963	15 - 3977 BG252727, BG260973, BG180624, BG122157, BE887548, AW948984, AW950907, BF965913, AI905469, BE869433, BG032175, AV718334, AV650921, BF793347, BE148077, BF793887, BG120463, BF204516, AW969050, BG121940, AL045343, AV649638, BE621758, AL037725, BE620934, BG169462, AV708063, AL045344, BE892224, AV708871, AV649666, AV653240, AV721974, BF740216, BG110357, AI888249, AV649944, AI814624, BE615208, BE613500, BE540375, AL043485, AA401244, BG117844, AV705742, AV762287, AW614902, AI768623, AA404260, W95853, BE614234,

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HE8TY46	149	899528	1 - 2190	15 - 2204	<p>BG260679, BE744499, BE791844, BE799404, BF341229, BF340249, BG033558, BE787232, BE563298, BE512690, BE727788, BF128559, BE727160, BF792775, BE791996, BF526027, AL520325, BG118406, BF528636, BG120791, Z78324, BG252616, BE267489, AW997217, AA573951, AW378545, BE884919, BE545107, AW161658, BG058810,</p>

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HE9CY05	150	834826	1 - 1033	15 - 1047

					H73374, R02666, A1438986, T80187, AA676653, AI022453, T87491, N86939, and N88474.
HE9EA10	151	827796	1 - 2100	15 - 2114	AI990816, BG112919, BE503434, AI797355, AW303578, BE502346, AI750156, BE786552, AA514648, AI631128, AU158865, AU148743, AI611129, AU153354, BE540704, AU150538, BF508791, BF223713, N77793, AW103270, AI206873, N62886, AI652672, AW003920, AW515809, AW003207, AI055940, AI039096, AW205084, AI206877, BE175285, AI522151, BE709434, BF436332, AI365206, AI274835, AW798986, AA962334, BF001393, AI220417, AA226874, AA062659, AI696208, AI970440, and BF353450.
HE9GG20	152	633719	1 - 662	15 - 676	AA702942, AA017500, AI590400, AI863074, BF208968, N53688, R50964, H29619, AA053400, M79184, R49619, R07891, R11225, D58339, AA022600, AA704234, H44497, BE567097, BE567104, N54769, AW949478, AV726590, AW958620, AV708961, AV724987, AW953773, AV727381, AW963671, AV702725, AV706223, AV707863, AV703062, AW967188, AV728965, AV706183, AV651920, AV727822, AW959830, AV707786, AV698290, AV702738, AV705445, AV705437, AV702798, AV704847, AW957653, AW954439, AV660258, AV725618, AV726505, AW962133, AV707663, AW964223, AV706279, AW950443, AV697880, AV648364, AW952403, AV726619, AW952751, AV701183, AW956075, AV645936, AW954209, AV709587, AW959858, AV705635, AV692600, AV650315, AV659389, AV727613, AV725033, AV706527, AW964421, AV727787, AV659294, AV725745, AV686060, AW631469, AV660608, AV728148, AV726831, AW950411, AV709314, AV653353, AV727377, AW954697, AV691080, AV702385, AW949802, AV652001, AV707979, AV709580, AV727003, AV707652, AV708786, AV659547, AV727526, AV728546, AV725577, AV728924, AV725617, AW956474, AV704124, AV699089, AV705135, AV701874, AV703501, AV704785, AW952042, AV707401, AV709660, AV709935, AV654035, AV707654, AV704042, AV654282, AV729220, AV697288, AV694836, AV706882, AV697498, AV727314, AV702954, AV727238, AV686420, AV682997, AV696866, AV727126, AV728652, AV655890, AV728997, AV706162, AV686390, AV656256, AV686417, AV698429, AV656240, AV655577, AV692972.

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HEBCI18	153	831464	1 - 1107	15 - 1121	BG163565, AA176798, AW978791, BE551966, AA836133, AW469431, AL134496, AI919296, AA039788, AA039787, AW188317, AI198382, AI302883, AJ057154, AW504498, R82599, R87540, AW873029, AW471211, AA912833, BF909811, AI589744, F09143, F10741, R82600, AA984619, T75424, BE328429, R39278, AW517852, BE929822, R88273, R87938, BE929796, AA583730, AW088089, AW169811, BF812441, F13138, F11483, AW008583, BE934536, T94778, AW135926, AW082922, R87937, T63400, T94026, N26157, AI432002, T63545, AI687331, AA983955, and AB014522.
HEBCY54	154	600355	1 - 1175	15 - 1189	AI530975, AA747512, AI215061, TI5637, Z39819, AA350340, AA866209, R00414, AW074717, F08597, AW953260, Z43761, U97145, and U97143.
HEBDF77	155	692347	1 - 1806	15 - 1820	BE550371, AA991780, BE671948, BE672217, AI907477, BF591700, BE504304, BE220403, BE222339, AI281980, AJ015798, BG149662,

					H29013, R88622, AI656870, H06705, R39800, F07755, Z40840, C15636, C15624, AA133829, H29114, H06754, F06113, T15386, D81469, BE503273, BF062276, BE041662, BE041633, F06114, F02370, AI363908, AW148827, N46729, AA663853, BG149723, BE699475, BG105603, R12748, AL039029, BE699467, BF946316, AB023144, and AL078460.
HEBDQ91	156	840288	1 - 1559	15 - 1573	AW964157, AI564075, AA167586, AW204637, R85100, AA824367, Z45398, AA324333, AA332411, AW341163, T81885, BG055317, AA378561, T05032, BE218722, Z41111, T71210, AV705201, AV703158, AW953763, and AC008623.
HEBFR46	157	847064	1 - 1290	15 - 1304	BF339246, AW957665, BG258103, AW075995, BF309372, BE868083, AW576203, BF308177, BE881903, BF689190, AI051657, AA311371, BG059809, W56301, AW058408, AA102223, BE301190, AI091799, R05745, D61582, R01123, AA102222, AA375163, BG029189, AW293550, AI752483, AA376452, AW275432, BF812696, AI439525, AW151541, AW084324, AL121039, AW265468, AI702049, AW162314, AW327673, AA577706, BE273825, BF940118, AI270280, AW148821, AW162332, AA807704, BG059139, AA661583, AW238137, AA601674, BG180320, AV742390, BE244308, AW410844, AI433952, AI828721, AA631915, AL079734, BG152746, AW473160, AW021399, AW020094, BE677164, AA728954, AI860423, AI039257, BF679568, AW243817, AI049999, AW148964, AI538404, AI826857, AI753131, AI690379, BE676856, AI003469, AV758870, BF214695, AW502688, AW631267, AI904840, AA603359, AI251696, AI819419, AI090377, AI254508, BE176819, AI554399, AA112864, AI355246, AW151848, AW962971, AI028148, AI308529, BF868826, BF970107, AA507499, AI751698, AL036896, AC006483, AK024787, AK027150, AC004659, AL078611, AK000385, AC005519, AC009756, AC002543, AC005052, AL354836, AC016995, AL023879, AC003108, AL139824, AL121675, AL358777, AC015651, AC011444, AC004966, AC011526, AL158040, AC007421, AC005531, AL391259, AL096701, AC002996, AL109923, Z97183, AL133458, AC010271, AL035086, AP000280, AC008848, AC018663, AP000039, AP000107, AF195658, AP000557, AC004974, AC010789, AC004552, AC004985, AC018633, AL121897, AP001715, AL117382, AF207550, AC010422, AC008635, AL035659, AB017653, AC005358, AL035683,

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HEBGE07	158	798096	1 - 1853	15 - 1867	AI016066, AC010170, AC006515, AC008641, AL078581, AL121975, AC009225, AC006257, AL033397, AL122023, AP001671, AL121983, AL024506, AL135785, AC024085, AC020552, AC008115, AL162571, AC008543, AC005071, AL009183,

					AC006500, AL121908, AP000213, AP001714, AP000135, AP001693, AL050308, and AC005295.
HEGAU15	159	834379	1 - 1111	15 - 1125	W92008, W92009, and AC009404.
HELAT35	160	693175	1 - 2154	15 - 2168	AW963489, AI355246, AW275432, AW272815, AI521525, AV756663, AW130350, AW962006, BE154381, AA584765, AI479148, BF814446, BG231179, AW963397, AI791659, AW020150, AI590442, AI926102, AI927275, AA525753, AW069227, AW021674, AW265468, AI634187, AI572680, BG180320, BE138520, AA533066, AW270652, AL121039, AI702049, AW270385, AA683069, AV712092, AA595661, AL534817, AW023390, AL041375, AI358928, AI821901, AA719564, AV761486, AW148821, AW897556, F35684, AW302048, AW151247, BG059139, AI973173, BG166270, AA313025, AI797998, AA507623, AW105463, BE073116, AA663579, AA491827, AA535216, AA640305, AA807704, AA493808, AI675615, AI473671, AW970588, AW410844, BE049409, Z84466, AL163204, AC005274, AL121897, AL138743, AC008865, AL163209, AC005666, AC018637, AC004552, AL109748, Z98751, AC006487, AL022336, AL109925, AL035685, AJ009632, AC008738, AL1355871, AC004938, Z77249, AL034372, AL161422, AL136137, AP001725, AC019227, AL031311, AL117333, AC007097, U63630, AL121825, AL031431, AC018633, AC007462, AL137129, AL023580, AL133388, AL008712, AF067844, AC004087, AL121785, AC018641, AC004386, AC002418, AL031733, AC004448, AL035671, AC011491, Z73358, AC012384, AL138878, AC006059, AC008812, AL109797, AP001714, AC000094, AC027312, AP001430, AP000140, AL118496, AC005086, AC008072, AC073593, AC024086, AC005740, AP000088, AL031229, AJ010597, AC004583, AC009505, AC009358, AC005099, AP001693, AL158832, AL161629, AL117329, AP000156, AC010789, AC002480, AL139187, AC005484, Z86090, AP001694, AP001729, AP000014, AC008569, AC008080, AC007052, AC034242, AC012072, AC002066, AL390025, AL138721, AL121978, U52112, AC020917, AL121748, AL162831, AC006236, AP000104, AJ133269, AL022237, AF111168, AP000228, AC002316, AL024507, AC009016, AL159972, AC020908, AC004106, AP001748, AC006345, Z93783, AC024571, AL163210, AC005624, AC006501, AC004491, AL158830, AC006285, AC003012, AC025593, AC018492, AP000402, AL162377, AL021407, AL050307, AL390738, AC000025, AC005527, AL136442, AC022148,

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HELBU54	161	637624	1 - 1246	15 - 1260	AI057466, R99876, T95815, T95814, R99875, AI560085, BE301584, AA654781, AA653955, AA729282, AA507822, AI583252, AI246796, AI612142, AI753536, BF879045, AW502237, AW080811, T09219, AA525823, AI084223, BE062476, AA225406, AI446561, AA558404, AW963463, BF854308, AW732205, AW410354, AV737160, AL109798, AC005522, AL031291, AF229163, AC005391, AC005726, AL050318, AP000032, AP000504, AC005099, AC021016, AC006538, AC008760, AC005409, AF129756, AC008569, AL139120, AC009087, AC005399, AL139384, AC015550, AL132825, AL034548, AL109930, U63721, AP001714, AC073184, AC008616, AL035530, AC007226, AP001688, AP000703, AC007739, AC006208, AC004228, AC058791, AC005821, AC004906, AC004466, Z84469, AC020906, AP000104, AL162615, AP001727, AC009509, AC010789, Z49918, AC011450, AC005599, AP001052, AC005736, AC000353, AL159997, AL035422, AC006241, AC003043, AC027319, AC004755, Z98200, AC008738, AL024507, AL359916, AF017104, AL031672, AL035461, AL031848, AC002310, AP001692, AL121903, AL139343, AC003663, AL008725,

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HELGG84	162	674456	1 - 1095	15 - 1109	AI822137, AI821793, AI141174, AI742807, AW008096, AI376221, N70665, AI147430, N66810, W05747, AW894967, AI708189, AI792140, N75004, AI597655, and AI140241.
HELGG84	163	851137	1 - 1095	15 - 1109	AI822137, AI821793, AI141174, AI742807, AW008096, AI376221, N70665, AI147430, N66810, W05747, AW894967, AI708189, AI792140, N75004, AI597655, and AI140241.
HEMEY47	164	834491	1 - 1600	15 - 1614	BG114430, BF669387, AI186048, AW979184, BF744535, AA873661, AW591309, AW778931, AI049800, AA776535, AI285808, AW770319, H67089, T61820, AI1199252, H58923, AA595661, BG011176, AW265468, AI547110, AA180056, R02409, AI570067, AW410844, AA493245, BE156611, AA601376, AA280886, BG180320, AI121039, AI702049, AA600127, AA493546, AA404619, BF880881, AW021674, R61887, BG059139, AA313025, AI174703, AU157188, AI567676, AA629668, AW148821,

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HEOMC46	165	866171	1 - 925	15 - 939	AW026120, BF891831, AL498747, AI056326, AI075298, AI359561, BF901563, BF901553, BF893716, BF894749, BF901561, AI457604, BF891852, BF901564, BF901551, and BF893717.
HEPBA14	166	855935	1 - 732	15 - 746	AL042402, BE794572, BE793434, BE902740, BE795223, BE796038, BE795846, BF976282, BE794023, BE792650, AI708767, BE797539, BE727901, BE790876, AV698481, BE797453, AV713476, BE796376, BE790755, BE791092, BE796227, BF308232, BE874660, BE745525, BF342550, BE790687, BF968456, BE791517, BE560745, BE791406, BE274348, BE728347, BF237469, BE796509, AU123246, BE386742, BE260585, BE797101, BE794823, BE731394, BG177271, BE879514, BE793206, BE300171, BE794960, BE879535, BG251054, BF971150, BE731375, BE791337, AU122903, BE891943, BE905832, BE790793, BG121915, AJ985637,

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HEQAH80	167	701984	1 - 1633	15 - 1647	BG118363, BE544656, BG117988, BG167671, BG250630, BE790344, AA814195, AV734349, AI765650, AI457718, AI085388, BE856855, AA633558, AI379449, BE785203, BE902117, AI476182, AI419034, AI037888, AA028963, AW009541, AW051402, W67841, AI304821, AA687642, AA934498, AI079438, W67782, AA035136, AI016426, W39585, AI808210, AA098932, AI685969, AW842530, AI685970, AI038819, BF002382, AI580447, BG231682, AI148797, AW839711, AA487780, AA485877, AI219571, W42434, AU157697, AU136379, AW973872, AA594455, AI865081, AI085147, AI202241, AA085457, AA632996, AA991990, AA035135, AU138203, D45612, AI473790, AK002121, AL033529, AC005015, AL035405, AI135911, AC011479, AC006261, AF001552, AL024498, AP001728, AC009086, AL031985, Z95329, AF215937, AC010285, AC083871, AC004921, AL021154, AC008745, AC006449, AC006441, AL031255, AP001716, AC020917, AC002365, AC006111, AF001549, AC004876, AL137067, AC007686, AC010519, AC004019, AC005792, AC004983, AI109976, AC004099, AF053356, AC004950, AL080249, AC004832, AL008718, AC005859, AP001619, AL035072, AP001711, AP001694, U95742, AL035458, AL031846, AL157372, AC000026, AC002349, AF146367, AF038458, Z99716, AC007688, AC020898, AP000289, AC002477, and AC008119.
HEQBF89	168	786205	1 - 845	15 - 859	AI250552, AI251284, AI251203, AI284543, AW270385, AV759518, AL138455, AA904211, BF337291, AL119625, AI254770, BF725761, AI249853, AA704393, AI251034, AW020198, BE139139, AW963474, AA557911, AV762645, N57681, BE138387, AL037632, AW979191, BE252421, AW020088, AW276678, AL132656, AC007383, AC005952, AL133258, AP001695, AC004987, AL096751, AL031733, AC006443, AC006345, D83989, AC005015, AC023880, AF213884, AC006994, AL356244, AC006241, AC002316, AL353802, AL035420, AL354776, Z98742, AC005000, AL049795, AC006064, AC023105, AF312915, Z97352, AC004837, D87675, AC004686, AC007688, AL022165, AC008736, Z83845, AL031295, AC026431, AP000112, AC002477, AL031283, AC015550, AL117336, AL357497, AF196779, AL121601, AC005231, AC005874,

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HETC116	169	844543	1 - 2271	15 - 2285	<p>AW851273, AL043006, AI651386, AW383991, AW373566, BE881467, AI669232, BF345924, BE395168, BE504187, AI681395, AW299401, BE550134, BF093777, BE156260, BE005867, N26576, AI983369, N50035, BF221628, BE156250, AA156032, W61061, BE005872, BF527978, AI809672, AA932906, AA405124, BE502997, BE772818, BF759946, AW051708, AI609288, BE089879, N63480, BE089880, AA987664, BG054688, AI138308, AI393915, BE156248, BE005860, AA835275, AA909484, W72796, AW440400, AW178796, BE772779, AI286220, BE772827, AI073876, BE772829, AI357767, AI560667, AI264150, AI434188, AA405125, AA126946, N94778, AW291536, W76118, BF081321, N39638, AI358419, N33885, N31550, W73600, AI393549, AW363497, BF809085, BE086658, AI446713, BE839098, N59356, AI092369, BE086648, AI380038, AW271659, H19390, W73639, AA156202, AI524917, T95778, AW073097, BE156331, AW951946, AW008738, BF448751, BF081318, BE086710, R95853,</p>

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HETDW58	170	790557	1 - 1519	15 - 1533	AL515768, AL514639, AL514640, AL515769, AL519557, AL519556, AL519901, BF967595, BF341094, BF791789, BF967512, BG109630, AL519900, BE891391, BG122004, AV746319, BE779163, AV728675, BG107882, AV714586, BF307579, W44679, AV752184, AW968505, AI890560, BE894935, BF203162, BG163396, BG031520, BE895633, BF735925, AW954811, BE542157, AA878212, AA732222, AV713978, BE763324, BF921086, BE736572, AW965434, AW575099, AW575100, BF965804, AV752080, AI740578, BF732808, AW150933, AW276564, AA926775, AA454649, AA099273, AA813289, BF808054, AA916010, BF940195, AI419983, AA165256, AI928819, AI745053, AA143151, W93810, AW469220, AI738911, AW440214, BF766017, AI078212, BF726338, BF224030, AI761914, BE165923, AI693625, AA932898, BE672485, AW271592, AI148178, AI394261, AA044713, AW006011, BE763355, BF210990, AI056934, AI095473, AA480903, AW172367, AA099321, AW166446, AA679256, AA151528, AA524497, AA456262, AV723979, BE541856, AI589306, AA936450, BG111109, AA150234, H29463, N35185, AI339779, BF928362, AA860734, AA045037, AI125169, BF816513, N75627, AI962015, AI283124, R60626, W93921, AW022061, AV731141, AV707127, AA424453, AA598407, AA181330, AA187083, BF575453, AI123977, AA558445, BF675970, AI278557, AW262834, AA706261, W44680, AA909819, BF095999, AI929089, AA854946, BE940752, AA152292, AA609394, AA493826, AI633473, AW614151, AA045036, AA885111, AA446423, AA480965, AW873084, AW663737, AI220625, AW511995, AA131268, AA142975, AI420791, AI351559, AI539546, BE827423, AI039077, R69711, BE676828, BF109079, BF677981, R60573, AI091994, AV746110, AV753918, R60615, AI809414, AW401929, AV728150, AW001015, BE175156, AW511876, R50906, AA011658, AA939113, BE172078,

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HETHEY67	171	704077	1 - 1764	15 - 1778	BF056294, BG058500, AI961165, AW271614, AI368021, AW299253, AW292132, AI867161, BE645878, AI828647, AI682948, AU154886, AW293105, AW028106, AA417331, AI261853, AA417319, AI200409, AI206774, BF940299, AI339756, AU145941, AI198182, AA173406, AI080232, AA173461, BF998461, BG252399, AA525437, AV688143, AV702071, AW965874, AV704297, AW950373, AV708807, AV708988, AW954003, AV726519, AV728467, AW956797, AW959796, AW967325, AV701880, AW951882, AW962924, AW962934, AW962003, AW957498, AV701646, AW952306, AW949351, AV703542, AW954336, AV729129, AV703624, AV727396, AW957985, AV706655, AW950678, AW960676, AV702164, AW954889, AW954235, AV694524, AV687808, AV706683, AW955088, AV725157, AV660184, AV709261, AV728853, AW957298, AW956295, AV702718, AW951732, AW966970, AW963232,

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HFCDW95	172	847383	1 - 857	15 - 871	AL529530, AV726582, BG180774, AW952054, AA398982, AL537902, BE739764, AV727582, AW300512, AV722444, AW029553, AI986473, AI950933, BG164817, AV726968, BF588526, BF476107, AW770808, BE874188, AA639868, BG252620, AI978599, AA142949, AI700677, BG059521, AI918056, BE866188, BE738987, AI828361, BF185676, BF445290, AA399621, BF031768, BF697098, BE785930, BF433181, AI380426, AU150075, BF030153, AI380761, AI040457, AW302413, AI678823, AA737313, AA548083, BE905006, AI273446, AI632020, BF001920, BG151519, AI887157, BF446900, AI925691, AI304432, AI375004, AA814501, AI284941, AI819675, AA708445, AW131704, AI478462, AL529529, AI741247, AA969450, AI308781, AA136378, BG054885, BG258115, BF701370, AI680947, AW148776, AV727838, AW304864, BF208666, AA432085, AA279397, BF028795, BF028097, N52155, BF031629, D54791, BF591720, AA809906, AA155617, BF028402, AI803830, AI347883, AA983660, AA604572, AI262096, AW236261, AW576520, AA157854, AA588204, BF131266, AA088711, AA282014, AA702285, AA923508, BE048565, BF667411, AW780109, AI262793, BF341242, AA548251, AI421476, BF939796, AW194950, AW337256, D56471, D52957, AW887069, AI183568, HI7142, BE565940, AA137224, D52438, AA771875, D58681, AA137223, AV725549, AA150656, AA911258, AA446770, D54998, R79409, H09565, R33682, BF207904, AI612314, AA658190, AI421135, BF091420, F00903, BE184725, BE184795, D53702, BF448933, AI421134, AI080427, AI612899, M78614, BF028440, F00618, F04716, BE549554,

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HFCEI04	173	692438	1 - 873	15 - 887	
HFCEFD04	174	824057	1 - 1423	15 - 1437	AV716496, BE888570, BE546077, BF965825, BE782146, BG167279, BG110715, AI065086, AA449054, BG260935, BE881187, BE614448, BF674653, AV722469, BG252153, BF965979, BE616168, BE887001, BE882005, BE540532, AW372448, BE614862, BE175667, BF965539, BE966951, BG106970, BG113118, AW994902, AW385002, BE886239, BG027899, BF792768, W68803, AA044586, BF574675, W68605, AW994907, AW005766, AA313320, AI735753, BE394571, AW994918, AA065192, AA207248, BE547089, BF035314, AI816303, BE676546, AA308811, BF844615, BE886124, AW994914, AW439778, BE349231, N74664, AW664111, AW474055, AA173773, AW473687, BG178073, AW994911, AA152278, AW994923, AW897705, BF793944, BE006074, AI870133, W84479, BE613154, AW169293, AA600026, AA223919, AW029616, AA864957, BE615632, AA703910, BG026866, AI961221, AA745728, BF803245, AA533078, AA031525, AI708769, AW157553, AA868231, W63577, AA563927, AA605228,

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HFCFE20	175	701985	1 - 1191	15 - 1205 BF984834, AW607823, BF752470, AI287502, BG036001, AU131030, AW389225, AW151116, AI640305, AW089635, AW104761, AI939919, BF381246, BE783602, BF752435, BE167887, BF843257, BF949399, AA357238, BF349844, BE929513, BF002540, AI905424, AW378466, BF757955, AW992911, BG105564, BG006009, BE079979, AW499878, BE706163, BE077753, BE079978, BE255958, BE299910,

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HFEAY59	176	658685	1 - 1139	15 - 1153	AA339768, AI150703, BE386477, AC005919, and AB013607.
HFGAJ16	177	580824	1 - 852	15 - 866	AI521623, AA824344, AI686904, BG036402, AW874351, BE409491, AI085386, AI131334, AI075119, AI027896, BE675717, AL043654, AW084980, AI768368, AI453733, AA557213, BE541822, BE562864, BE275955, AW055295, AW276414, BG057638, AW276196, AW029588, AW300807, AW780412, BE302028, AA618624, AV740886, AI991844, BF341036, AA812758, AI922585, AW071911, AI799340, AI701919, AI687575, AW516682, AI588849, AW079022, W72618, BF304947, BF569021, BG104981, AI166859, AL518028, AW516312, BE349418, AA865627, AA933786, AI125113, AA723561, AU154218, BG033819, BE747741, BF568781, BE378889, AA838342, AW190777, BE748649, BF569177, BE617665, AW070796, AW083429, AI240853, AA745991, BF570409, AV736831, BF436625, BE271684, AA583556, BE899165, AA630957, W67687, AI186882, BE745859, BE314932, BF982128, AA612653, BE272396, AI075320, BE617678, AW971899, AI141904, AW026690, AI086514, AA806657, BE818652, BE271324, BE896860, AI355402, BG116824, AI131122, AI201619, BE899239, AI149283, AW796145, AW881732, BE393628, AA151107, BE818644, AI951063, AW405547, AI042097, AI376212, AI052116, AW050615, AL522194, AI025098, AI027542, H41430, N80901, AV739392, AV739394, BE818641, N70515, W94930, N49685, AA962027, AA583938, AA722166, BE895861, AI610161, AI141893, AA776762, AW815386, AI937754, AI369279, T79609, AW029369, AI339513, BF090753, AA253447, AI190503, AW815544, AA707810, AW582297, AW582294, AW815559, AW582307, AW815397, AW380345, AW582291, AW380352, AW391287, AW391314, BE744697, AW768428, BE162642, BF350202, AW815539, AW815538, W31787, AW815541, AW362645, AA552048, AI144446, N33111, AA552047, BF770616, AW815530, AW371281, AW582292, AA862364, BE062978, AV738695, W76449, AW815388, BF329952, AI905254, AI289982, AI863871, BF445715, AW371310, AW473718, AA789118, AI005493, BF902098, AW815376, R88241, AW815374, R71681, AI869545, BF350205, AA775053, AI272779, AW582263, AW073265, N21025, AA554523, AW371276, AW391324, AI625289, BE535416, R78099, AI001123, AA293177, AA411106, AW391329, BF902080, AA293178,

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HFHZ75	178	827872	1 - 1266	15 - 1280	BG105398, BG170242, BE888290, BE766571, AV714598, BG119420, BE897546, AI660844, BG170184, BG231588, AA058838, AW949413, AV721650, AI885275, AV706062, BE540752, AW950747, AW886995, AI696853, BE617649, BF966634, AW886457, AA598546, AI539340, BF896602, C05042, AA099663, AA310272, N73537, W42763, BF725398, BE843106, AW819084, AW007547, AW238376, BE891410, AI423238, BF326369, AI369072, AI819669, AI682911, H01984, H04242, H46888, AA214320, BG170355, W40490, BF310720, AI671517, AA732798, BE350213, AI568687, H02606, AW518684, AW512885, H51468, AA805604, BE617157, AI283830, AI089446, AA844062, AW471393, AW803038, BG055802, AW674138, H54905, AI359334, AI812088, H46307, AI201796, BF806934, W40486, AW001403, BE179302, AW589571, W31209, H02079, AA837758, AI341783, H50242, AI333766, AW960606, T18903, AA099203, BG055942, H65757, H82345, AI368979, AI963577, AA778056, T36177, AI421932, AA016205, AA993811, H50280, AA457142, AA813708, BG057087, H82245, AA446938, AA443655, AA503240, AA349135, AA612602, T31857, AI721097, H51426, AI468714, AI369041, BF571934, AA676211, W42620, N32517, R23178, AI014786, AA458476, AW993477, T51639, AI086136, N74595, BF349451, T55425, R23177, R18511, AI203761, AW149445, N42732, R06712, AA910189, AW055037, BE966889, AA402530, BF895263, W68074, BE710892, AI753209, N77518, R34016, R41505, AW166873, AA630411, BE884829, AW243489, AA757475, AI696380, D25759, AW860451, AW797160, R14803, BE855838, AA401089, R06711, W04540, AW104032, H54904, AI243075, C20591, BF369560, T31161, T51797, R40112, AI709020, AW842750, H02707, N36584, BF899874, AA782248, D59619, H65758, D80253, AV719822, AV718489, AV718692, D80196,

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HFIJA29	179	839206	1 - 1261	15 - 1275	AW195543, AI051690, AI927925, AI051699, AI434786, AI675823, AW590850, W84675, AI971192, AA767204, AI767042, AW139875, AI521899, BF195790, AI250256, AA829382, N20059, AA215409, H13567, Z38968, AA526451, H01273, H13200, R08173, H01182, R82482, AW972928, AW207335, BF242637, AL031259, and AL049844.
HFIJA68	180	847074	1 - 1143	15 - 1157	AA032221, BE881257, BF573995, BE875216, AI686139, AL048969, BF826830, BE061906, AU157011, N49425, BE775020, AV763498, AA974503, AV710762, BF525393, AV696428, BE972379, BF667616, AI354847, BF038189, AV691908, AW405593, AV684596, BF916850, BG260565, AC004969, AC005061, AC005053, AL109827, AF186249, AC006277, AC023105, AL050335, AF243527, AC005323, AL022165, AC024561, AC004848, AL353807, AP000030, AP000505, AL035458, Z85987, AC009060, AP000152, AP000044, AP000112, AC006571, AC026888, AL022163, AC008569, Z98742, AL118501, AP001412, AC007845, Z85986, AP001711, AL035072, AL355392, AF045555, AL049776, Y14768, Z97985, AL445490, AL117336, AP001716, AC020916, AC008753, D88270, AL096791, AC007637, Z93017, AL050318, AC010150, AL365505, AC005049, AP000692, AC005250, AC007546, AC006285, AL033529, AL136300, AL158830, AC007216, AL133448, AP000501, AP001760, AL158198, AC008892, AL109797, AC011497, AC005480, AC004099, AL133249, AL121655, AC005375, AC005522, AC011895, AC016025, AL356652, AL117381, AL158823, AC005914, AL163201, AL078461, AC006057, AC021999, AC004967, AF129756, AC005231, AC002072, AC002070, AC005387, AL121658, U95742, AL022721, AC011484, AC010618, AC016830, AL161670, AC006130, AL138836, AC005778, AL121905, AC005081, AC020750, U95740, AL137012, AC002350, AC005519, AL121601, AF196969, AC004990, AF168787, AL136981, Z98946, AC005500, AF254983, AL049539, AL355094, AC010463, AL022323, Z99716, AC007193, AL121926, AC009244, AP001728, AC005332, AC018758, AC005052, AC007387, AL135927, AC007227, AC005251, D86992, AC006449, AL021397, AP001753, AC005291, AL031846, AL133517, AC007242, AC022148, AL136137, AC004867, AC025588, AC009087, AP001714, AC011465, AL121886, AC007731, AL109654, AJ246003, AF134726, AC008543, AC004883, AC005736, AL391114, AL135839, AC006345, AC007488, AL137918, AP001731, AC005399, AC005280,

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HFKE05	181	827572	1 - 1871	15 - 1885	AL523262, AL529538, BE899393, AW084916, BE747028, BF311012, BE728739, BE312851, AL040564, BE742382, BE735998, AI381488, AI146820, AW161993, BF529932, BE383932, BE259400, AV710840, BE382374, BE744761, AL043582, AW439423, AL043581, BE646448, BG171573, BE677335, BE677477, AI554451, AA131317, AW088167, BF314148, BE261821, BG166503, BE279879, AW168887, BE646180, BF316303, BE046496, BF197687, AA744952, BE745721, AI218269, BE312818, BF314164, BF594180, BF314798, BF593719, AI151026, AA194202, AI418964, AI453314, AI873815, AW130388, BF913893, AA195161, AI269934, AA719396, AA625370, BE312619, BE252921, BE207433, AA492412, AI042024, AW250536, BF573185, BF037936, BG179218, BE302543, AA194044, AI147243, AW340657, AA947438, AI091020, AW117635, BF570164, AI445860, AL045225, AA115998, AI021898, AW732559, AI421387, AU152077, AA968905, AW662299, AA837991, AA131418, BF812798, AA194939, AL043070, AI948633, AW249876, AA195538, AA506433, T16224, AI589527, AA936491, AW016162, AA883810, AW118179, R54823, AV690033, AI560986, AV688867, AA459190, AA354156, C18845, AA378263, AA862775, H61307, AW806534, R45155, AW263382, AI277162, BG254511, W79694, AA458974, T31333, H39688, T34870, AA456441, AA301052, R40792, AL523263, C18401, R87505, AA063352, BE140370, R13315, D20272, BF568555, BE242030, BF033566, AI364386, BF940389, AA301053, AW419282,

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HFKEU12	182	634006	1 - 1017	15 - 1031	AW419343, and AW471004.
HFPCZ55	183	840840	1 - 2721	15 - 2735	AV714494, BG257295, AU137860, AA455877, AA999864, AW880615, N98831, BE048764, AW954901, BE348449, N66571, AL045243, AI420623, AI817146, AW271213, AU157344, W44682, BF955185, BE223107, AI355752, AA455880, R54821, BF589210, AI924033, AI887849, N63487, AW601474, AI923020, N63481, AW903942, AA975919, AI306145, BE767078, AA256290, R72348, N94787, BF948057, AI919421, AW880496, AW005707, AI584169, AA669696, BF754698, H10056, AI250173, AA318076, AI440227, BF001047, AW244040, H10110, N94780, N44348, AA312915, R55120, BF944396, AI358104, AW883910, AI886676, AI418315, BE838574, AI570333, BF588691, AW880645, BF909132, BF932028, BG153080, AV758808, AI345677, AI866820, AI345608, AI340533, AI348995, BG029829, AW268261, AI623941, AW020592, AI348847, AI310582, AI310606, AI345527, AI340511, BE393551, AI307569, AI524654, AL119791, AW079334, AA575874, AI336503, AW238688, BF680133, AI249877, AI344819, AI336633, AI345397, AI345567, AL515047, AI345261, AI345253, AI348870, AI345471, BE011880, BF672397, AL037582, AL037602, AA502794, AW151136, AI310940, AW265004, BF885082, BE965121, BE964700, BF924884, BF904194, BE907440, AW268072, AW191844, AI379711, AI343091, N63128, AI446373, AI573026, AI636619, AI582434, AI66992, AA070889, AW152182, AI312210, AI805688, AI334895, AI801325, AA493647, AI336512, AI473451, AI537677, AA761557, AI613343, AW162189, AA259207, AW303089, AW411043, AI859991, BE543089, AI784214, AI539771, AI929108, AI583032, AW089275, AI801556, BF816042, AK002039, AL117524, AF195527, AF195526, I89947, I48978, AR038854, AC006112, Z83840, AL121949, AK026793, AI8777, AC020904, AF218031, AL049423, AC004383, AY007109, AF132730, AL359894, AK000655, AR072729, AK026927, AX019230, AC004057, AF080622, AF044221, AC002538, AC009087, AL133069, AJ250403, AC007383, AX019229, AF217973, AF162270, AF026008, AC005815, AL049557, AF017152, AK027162, AF271350, AC010137, AK026542, A76335, AL117416, AK000568, I92592, AF054289, AK026649, AX045627,

					AK025435, AF061795, AF151685, AL137479, AL137267, AF111112, Y13350, AF113019, AC010723, AR068751, AK026528, AK027095, AL122106, AK027164, X72889, AF260436, AK026462, AK000137, Z82206, AF119875, Y11254, AF065135, E12579, AL157694, AL110158, S68736, U75378, U35846, U77594, A93016, AF000167, A41579, AC009233, X83544, AB050534, AC019176, AK025407, AK000421, AL356747, AC004837, U58653, AF182215, AP001666, AL135796, E05822, AL117626, AL161804, AL353957, AF141289, AK027154, AK025092, AK027146, AB040710, AK025015, and AK024747.
HFPDR62	184	839400	1 - 2630	15 - 2644	AA373167, BG057595, BE676730, AI183463, AA133593, AI475563, AA149955, AA150008, AA372442, AI202560, AC004953, AF003627, AP000111, AP000043, AC005832, AC027319, AP000292, AP001716, AF039905, AC026122, AF222686, AL023883, AC026161, AC010328, AC011484, Z68287, AL078638, AC007537, Z83826, AC009948, AL353599, AC002300, AL138699, AC034186, AC018513, AC009399, AC005681, and AC020610.
HFPDS07	185	821646	1 - 3101	15 - 3115	AL138380, BG169720, AI935102, AL120733, AI928091, AI928011, W72090, AW271410, AA551081, BG113927, AW772074, AW959045, AL138379, AI983516, AW772179, AL119876, AW750506, AI271626, AI859876, AW878298, BE221757, BE163453, H06458, BF382374, AI907486, BF130814, AI916682, AI758362, AW271209, AA290669, AI566124, BE161772, AI077407, N25719, AI285616, AI913586, AI634813, BE896666, AI167751, AI285477, BE677209, H06190, AI025494, AI292349, BG152819, AI308160, AA886323, AI373322, AW301256, AI041948, AI471716, AI768851, AV741773, AI307322, H14353, AI634998, AI698509, AI351573, AW294911, AI261641, AA856595, AI095281, AA074968, AA860616, H29066, AI478791, AA919131, N34108, AI014277, AW236657, AW892423, AW902232, AW577932, F02807, AA480959, AI474062, H14403, H14401, BF131072, H12971, H28963, BF247454, BF744260, AW291589, AI949893, BF511921, AA974976, AI915600, AW955549, AW001067, AA291059, H05610, W27987, H14355, AA312996, BE221771, AA293538, T15966, BF350974, AW772167, AA743242, AW001784, AA279312, AI698225, AI684574, AI910758, AW771561, BF745864, AA293539, AI244048, AW237508, AI699414, BF743973, R44845, AW027799, AI702405, AW193170, R89349, BF745792, AI701634, BF820106, AI245038, H29375, Z43420, AI698390, BE672282, R89441, AI792960, AI828035, AI589927, BE009865, AA361265, AA743243, BF842716, AI002804,

					AA074891, AA741569, AA223681, AA863134, AA723133, AI692272, AW817674, BF818070, AA810931, BE774846, M85518, AA831595, AW997572, AA100788, AI732415, AI732449, AA088431, AW470768, AA521126, AV755560, W27345, AB020645, AF223943, S80644, AF097493, M65150, M22586, AF158555, AK001220, and AF097492.
HFRAB10	186	745380	1 - 1405	15 - 1419	BF224101, BF593175, AI302700, AI161203, BF057163, N51360, AA394289, AI651758, BE672273, AI423054, AW090632, AA976204, AI167950, AI961153, AI360906, AW303583, AA527127, N50920, AI621051, R50850, F09016, M79104, AI933711, R53937, F11356, AI825042, R39087, AA412141, Z39744, T80400, R39312, R44552, M78951, R46134, T17357, Z38651, AA888981, AL118982, Z19723, T78686, BE708549, AB002297, and A75297.
HFTBM38	187	638338	1 - 1927	15 - 1941	BF968913, AA570398, BF347068, BF344994, AA326020, AL079872, BE613028, AW838912, BE044516, AA602471, BE672401, BF685077, BF746226, BE326895, AI480220, AI937044, BE061924, BE220469, BE061912, AA325896, AW072853, AI089735, BF330621, AW291237, BE772876, AW964693, AA410930, BE772826, BF747406, AW304942, AW370278, H29431, BF058399, AI862772, AI363103, N94392, AW514350, AA570138, BE772883, AA884986, AA625753, W61300, BF475720, AW070670, BE613183, AA868991, AA325436, BF742302, BE772766, BE772830, BF958918, H29336, BE839173, BE265582, H17864, H29432, BE839167, BE839170, BE772815, R21499, AA323963, AW078921, R42881, BE839096, BE839176, H11141, R49393, H17865, AI668927, BE839166, BE838964, BE839099, AI086318, H43521, BE350499, BE328515, BG056148, AI698485, AI621351, BG060048, H11056, R50356, AA994447, AI479570, AI866814, BF843988, Z41109, AI623712, AI970269, BE839097, T78036, BG109901, H42521, BE839133, H40983, AI419678, AA730385, BE839168, BE839134, W65364, BE083917, R35006, Z45394, AW370252, F07180, H46118, BE925489, AI940302, BF307296, BF871191, AW020419, AA939199, BE781405, AI095222, AW236186, AI653578, AI349957, AI345005, AI345014, AW953817, AW957086, BE878735, AI345261, BG170109, AW967299, AI146301, AA587120, AL120831, BE885353, AW058275, BE138644, BE881363, BF813196, AI421662, BF814072, AI868180, AV682089, AA811656, AI348917, AI690472, AW151974, AI340610, AI287476, AI348870, AV656903, AW302992, Z98519, N75779, AI687568, N25033.

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HFTDH56	188	862021	1 - 806	15 - 820	BF105071, AI670093, AI669240, AI151442, AA194946, AW411125, AI808052, AA024998, BF732418, AA700297, H12618, AI688673, AI671406, AA702853, AI078393, BE502303, R66047, AW885572, AI189137, BF512887, AA425375, AI656096, AI287581, AW195085, N93931, R66048, AA195715, AI800331, AI654892, T33449, BF057001, AA195087, H02011, H90799, AA115390, AA195556, AW885729, AA903701, R24216, N98972, AI300252, R24215, AW957374, AA195752, N69833, AA373336, H90748, Z40465, W90007, BF059554, T35437, AA133417, T29924, AA024872, AI473272, W40431, AA425467, and AC023154.
HFVGK35	189	731868	1 - 1222	15 - 1236	BE545819, AV728545, AW611729, AI870316, AI339967, AA039304, AW974678, AA649609, AI368236, AA904691, AA278755, D63313, H66920, C17470, AA830507, C00299, AA743299, AI821937, AA658477, BF106240, AA826320, AA620588, AW572692, AA730415, BF475757, AC009311, AI121899, AC008736, AI357752, AJ246003, U95742, AC007216, AI121658, AC012442, AC015651, AC007345, AF108083, AL080243, AC008044, AC007098, AC002565, AC005606, AC005520, AL136105, AP001711, U80017, AL023553, AC006241, AC005886, AC020916, AL049874, AC004089, AC004983, AC005031, AL499629, AC005081, AP001709, AC006571, AL050348, AC005529, AC009516, AC008482, AC005486, AC005363, AF001549, AC005940, AC003663, AC004685, AL020997, AC005740, AC003957, AC007637, AC002301, AC004125, AC007308, AL136223, AL121585, AC012156, AC004832, AC005562, AC012076, Z99128, AL035458, AL136300, AL162740, AL109806, AF243527, AC004383, AC018751, AC004682, AP002898, AC011811, AC002470, AL021878, AL117377, AL034380, AC008569, AF168787, AL035089, AL162430, AL031657, AC004382, AC004675, AC005086, AC010605, Z99716, AC006077, AL138828, Z97196, AC003982, AC018641, AP000553, AC008116, AC016025, AC007051, AF088219, AL158167, AC024561, AC004551, AL109984, AC004000, AC009477, AP001705, AC007225, AC004858, AC005017, AL121751, AC007782, AC010150, AL161781, AC004491, AC005696, AP001725, and AL353807.
HFVHW43	190	570948	1 - 1219	15 - 1233	AI761677, AL047645, BE243506, AA169245,

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HFXAV37	191	626595	1 - 1506	15 - 1520	BG115446, BG260565, BE796439, AV760760, AU130725, AV762220, AW976010, AL527073, AW962035, AW600804, AV762783, BG032943, AV714931, AU118837, AU117456, BF525393, AV761207, AU117926, BF679792, AW157180, AU119532, AF074667, AW965008, BF872337, BE541237, BG164166, AV763135, BG027041, BE888245, AV700113, BE538259, BG163541, AV762129, AV720115, BF668559, AA133332, BF892846, BE075868, BG058664, AV759356, AV760364, BF968610, AW953071, BE207261, AU157011, AW188427, AA742815, AW510513, AV759172, AV764406, AL119331, AV762022, AW957502, AW963473, AV759683, BF843174, AA640277, AV759711, AV762900, BE379437, AV763683, AV762902, AV700600, AV764389, AV700498, AW817886, BE300645, AV756726, AV763174, AA287618, AU131051, AI080732, AW962194, AW820787, AI951863, AL044000, AA584482, AW962996, AV762001, AV762779, AL138265,

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HFXB86	192	866174	1 - 1365	15 - 1379	AL515339.
HFXB86	193	580831	1 - 987	15 - 1001	AL046409, AI963720, AI334443, BG109996, AI350211, AV761106, AV728425, AI284640, AA610491, BG249643, AW500125, AW327868, AV740801, AW502975, AL138265, AV725423, AV702857, AW193265, AV764307, AW576391, AL119691, AW021583, AW953071, AV760466, AW410400, AW833862, AW518220, AV760937, AL120687, AV762098, AA581903, AI431303, AL048925, AW274349, AW303196, AW974109, AW270270, BG059450, AF330238, AI754253, AL038474, BF337291, AW501386, AL041690, AI289067, AW301350, BE206443, BF668217, BF241967, AI613280, AW265385, BF475381, AW276827, AV761362, AI345681, AI345675, AV763670, AV762064, AV763847, AI133164, AV762395, BF854876, BE674881, AI679782, AV710066, AV763354, BF827410, AV763540, BF677892, BE049139, AW419262, AA649642, AI345654, AI270117, AI281881, AV762397, BG236735, AV761489, AI341664, AW574794, AI696662, BF697673, AV763449, AA680243, AI064864, AL040921, AA623002, AV762111, BF915247, AL042420, BG256301, AV763216, AL045053, AA126035, AV729809, AA682912, BG222267, AW088202, AA569471, AA491814, BE139146, AA630362, AV764241, BE047069, BF130107, AL038785, AW193432, AA490183, AW979060, AI619997, AW513362, AW062724, AW975425, AI471481, BF939954, AW073470, AI368256, BF940837, AV757607, BG059568, AI732865, AI375710, AV760777, AW029038, AI799642, AV763558, AL048626, BF311000, BF679304, BF055844, AW004911, AV719311, AI312309, AW975217, BE350475, AU147104, AI732120, AW500353, AI053672, AA483223, BE049095, AI708009, AV734666, AW969629, AV759274, AL044940, AW662543, AL138455, AI754658, AA469451, AV761403, AW276435, AI345157, AV703682, AI355206, BG036665,

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HFXFZ46	194	600361	1 - 1364	15 - 1378	AI139785.
HGBER72	195	826710	1 - 1302	15 - 1316	AI827764, AW963463, AV728410, AW964231, AV705122, AW956640, AW963895, AW956641, BF918640, AV702172, AI732151, AW958318, AW021917, AV759632, AW974932, AV702109, AV704541, AV704467, AV705086, AI962030, AV725237, AV711430, AW500029, AW956077, BF760919, AV762633, AV703573, BF804385, AW962006, AW970877, AW302909, AA905613, AV728369, AV763026, AV763058, AV702760, AI188390, AV729337, AA644090, AW969743, AI358384, AV729272, AV702343, BF750422, AW962942, AV726091, AW963497, AV703597, AW973992, AW960468, AV709273, AI305766, AV762454, AW966064, BF911056, BG236628, AW963542, BE063437, BF916934, BF347791, AW410354, AI017251, T05834, AV762982, AV711465, AW955841, AI279417, BE150580, AV762033, AA584489, AA904275, AL040054, AV757607, BE019467, AV758903, AV728425, AV703063, BF347740, AI963720, AW816516, BE294700, AL042373, BE395467, AW963489, BE178609, AA720732, AV712092, AW514662, AW069769,

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HGBEY14	196	658691	1 - 1724	15 - 1738	AW968598, AI658664, BF514897, AI478203, AW967773, BE217946, AI795923, BF196102, BF436879, AA768899, BF515994, AI139330, AA847849, BE220879, AW614077, AA465270, AI640819, AI564100, AA252471, AA456392, AI253083, BE812744, AI268480, AA805944, AA455923, BE677776, AW576288, BF509597, AW452053, AA742295, AI668807, BE645036, AW611783, BE671268, AI356895, AI076847, BE139537, AA861028, AI167589, AI652754, AI749748, AI022306, AW008697, AA026333, AA465157, AI473203, AA741570, AI452883, AA026332, AI560649, AI400078, BG028883, AA194138, BE934742, BE262718, AA743503, AA905237, AI468598, AL532066, AI532065, BF847573, and AF035819.
HGBGN34	197	648659	1 - 514	15 - 528	BF589439, AI127070, W95725, AI829385, W95768, AA732915, AI183361, AW967153, BE351006, BF941150, AI401364, AA321136, AI750875, AA321135, BG115775, AA878380, AA724102, AW962617, AA368761, AA455370, C00920, AC006208, AK024425, and AB029496.
HGBHP91	198	693011	1 - 1040	15 - 1054	AA825851, AA736485, AA805014, AI792627, AI862231, AW086361, AI348722, BE139397, AI254439, AI349662, AI053450, AI053903, AW102980, AC005017, AC005484, AL354751, AL161670, AC083871, Z77249, AC007934, AL137139, AB026898, AL110502, AC026770, AL031053, AC005014, AL158828, AL133396, AC007619, AC007327, AL022723, AC004832, AC004491, AC005189, AC009483, AC003950, AL031681, AC004813, AC009155, AI229041, AL121656, AC006313, Z82203, and U50871.
HGCAC19	199	851527	1 - 5047	15 - 5061	AL527635, AI582588, BE619956, AW003219, AW195551, AI114573, BE888827, BF444977, AU139098, AA307878, AI915534, AU117064, BE466128, BG251218, BE619434, AI700569, AI823371, BG260998, AI625554, AI478557, AW958690, AI052694, AW963950, AL134475, AU136749, BE326684, AW770747, AI803406, AI990669, BF448130, AW770442, AI193790, AI659257, AV757384, AI669806, BE835313, AI917737, AA947974,

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HGCAC19	200	801999	1 - 1520	15 - 1534	AI114573, BE466128, AI700569, BG260998, AW958690, BE326684, AI659257, AI669806, BE646481, AI247672, AA804520, AI971146, AA312557, BF680207, AA677603, AI400786, AA155855, BF677900, AW014065, BE888827, BG114047, AA155958, BF530119, AW129764, BE245294, H40373, AI885519, AA312855, AI356314, BF902177, AI820997, AI936012, AI821288, BF061715, AV738635, AI275943, AA677761, AA007519, T07209, AW594290, AW750461, H40320, AI591292, AI610014, AI925305, AW392416, AW392849, AI261268, AW858464, AW376216, AA007520, AA353267, BE245262, BF844493, T40389, BF950322, BF365430, BF985865, AI637868, AA732593, AW858513, BF804806, AW131746, AA393814, AW392833, BE379872, BE503330, BF694150, BE872264, AW189878, R26428, AW952724, AA580691, AW837691, BE155853, BE155862, BE155845, BF950338, AA393916, N64912, AW836417, BF088900, AW607905, BF063717, W27491, T71726, BE763982, AW891017, AW351921, BF678591, AW858522, AL045327, AW979285, AW601637, BF084778, AW577199, AW979134, AW577201, AL134524, BE927373, AL134110, AW577192, AL045328, AL038878, AL135012, AK026107, AX011606, AF109907, AC004858, AC006345, AR060053, AR066494, and AR083653.
HGCAC19	201	842540	1 - 1757	15 - 1771	AI114573, BE888827, BE466128, AI700569, BG260998, AW958690, BE326684, AI659257, AI669806, BE646481, AI247672, AA804520, AI971146, AA312557, AA677603, AI400786, AA155855, BF680207, BG114047, AW014065, BF677900, AI925305, AA155958, AI261268, BF530119, AI885519, AI821288, AW129764, BE245262, H40373, AA312855, AI591292, AI820997, BE245294, AI356314, AI610014, BF902177, T71726, AI936012, BF061715, AI275943, BE379872, AV738635, AA677761, AA007519, T07209, AW594290, AW189878, AW750461, H40320, AW392416, AW392849, AW858464, AW376216, AA007520, BE763982, AA353267, BF844493, T40389, BF950322, BF365430, BF985865, BE872264, AI637868, AA732593, AW858513, BF804806, AW891017, AW131746, AA393814, AI310882, AW392833, BE503330, AW274331, AI053507, AI053899, AI252910, BE139385,

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HHEAK45	202	765278	1 - 2000	15 - 2014	BG170168, BG119757, AU137041, BF307487, AI884713, AW583171, BF684161, BF434422, AI761426, AW961739, BE388217, AI816016, AI361955, AA808964, AU156996, AI869337, AA131094, AW291287, AW043617, AA535378, AW614114, AI249699, AI361947, AI218746, AI827821, AI139529, AI221685, AW961740, AI123285, W72783, AI469925, AL049086, AI076164, AA448078, N79760, AA927285, AI130718, AW103188, AA902207, W74291, AW015957, AW473667, AA447579, AI770126, AA886775, AI001738, AA884899, AI948509, BE467312, AW882943, AI765248, D12320, N72712, AA758092, BE295299, W79163, AI624834, N39042, BF822970, H23141, AA347762, W07208, BE940629, AA889154, AI081857, AI205834, AI377270, AA115546, AI220570, W02262, R42088, AW072212, N93000, R00155, W72784, AA677121, R00154, AI160329, AW450558, AA905549, F04905, H53287, AW262887, AA130970, BE856483, AI632990, W21211, AA115083, AA347763, N48234, AA907343, AI247907, AA665725, H78076, AW366883, AK001963, AL035690, AF086405, AC007533, AC010209, AL133341, AC023512, AC008379, AL033529, AL110120, AL133271, AC006022, AL138721, AC004694, AC005899, AL117694, AC004129, AL121906, AC002465, AC004263, AL035423, AB020867, AC008088, AC005821, AC008012, AL138878, AC022509, AL391684, AL024474, AL356969, AL121983, AC004882, AC005529, AC018758, AL121938, and AL133517.
HHEGS55	203	858372	1 - 580	15 - 594	
HHEOW19	204	886174	1 - 1575	15 - 1589	AL526527, BG113611, BF978449, BG112152, BG119645, AW956161, BG180022, AW592434, BF434127, AI688154, AA890706, BE266768, BE700345, AI192484, AA908255, AA516363, AA446942, AW172490, AA923183, AI499002, AI766675, AI203601, AA894580, AI144379, BF346299, BF969646, AU118533, BE887334, AV760144, BE874811, AA865339, W72592, AW005448,

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HHGDT26	209	658692	1 - 1570	15 - 1584	AA016083, H38909, H38821, T98933, T98978, AA644090, AA643784, AV700958, AI192440, AL046311, AW961848, AV699675, AV758870, AW408756, AA565911, AW189113, AI275982, AI281881, AW023111, AV761107, AL049840, AL020995, AC006537, U96629, Z85986, AL359272, AL139182, AF001549, AL049829, AC005940, AL137000, AC005180, AL137100, AC006120, AL049709, AL024498, AC008403, AL035419, AC007707, AC004990, AL096700, AL355392, AL121900, AC011484, AC002319, AC005011, AL122021, AL138752, AL050341, AL157791, AL137230, AL031311, Z98044, AC003684, AL136985, AC005049, AL121899, AC011469, AL356115, AL445465, AL121949, AC007969, AP000501, AL049569, AC004840, AL049779, AL022067, AL008726, AL136304, AL445483, AC008812, AL121928, AL031775, AC005088, AC004813, Z85996, AP001469, AC005756, AL096701, AC008556, AL357752, AC011455, AC002316, AC005052, AC011449, AJ277662, AL050318, AC010422, AC005844, AC009123, AC008738, AC005625, AF030453, AC005220, AC010605, AL117694, AC004000, AL121582, AL031728, AC005082, AC005514, L78810, AC007055, AL162458, AC008044, AC008551, AC004659, AC018644, AC020904, AL035398, Z93023, AC008040, AC073184, AC004491, AC018816, AC005722, AC021016, AP001717, AL023553, AC020906, AL162424, AC004019, AL109935, U15422, AC008848, AF108083, AL109825, AC009364, AC007425, AC004531, AC010358, AP001726, AC010553, AL049759, AL031283, AC004099, AC005527, AC002351, AC011445, AF314058, AC003663, AC004222, Z95115, AL031680, AL031848, AC005031, AP000167, AC021036, AC008134, AC012318, AC004033, AC004216, U95090, AC022201, AC008372, AC006449, AC002352, AC002390, AC010473, AP000689, U95742, AC005486, AL354864, AC005225, AC004797, AP000113, AP000045, AC005529, AC004675, AL030996, AL445687, AC002302, AC004922, AC011895, AC000025, AC011742, AP000345, AC005102, AF053356, AC018663, AP001748, AF134726, AC004605, AL109840, Z98742, AL031685, AC007298, AC005581,

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HHFPU28	210	824573	1 - 1824	15 - 1838	BF035537, AW069711, BF672434, BE883242, AL656112, W31606, W07084, AI272643, AW170657, AA166968, N77917, AW513307, W15523, C75056, AA167046, AA228908, AA228890, AA856550, BE540895, AA856549, AA883954, AI636144, F16318, AW275622, F15813, AA629229, AW979328, BE825903, AA683173, AW954221, AV725561, AV703624, AW962970, AV646649, AX001417, AF000998, and AF146793.
HHPSA85	211	658695	1 - 1133	15 - 1147	BE540193, BF968210, BG254591, AV732813, AV730849, AW964077, AA452368, BE892073, AI741227, AI806660, AI982626, AI341345, AW043854, BE972497, BG120523, AW298800, AV705265, AA724961, AI361526, AW166028, AA931158, AA452141, AA974487, D53937, D81263, D52496, N99604, AI193667, AI341984, AI492961, N94800, Z39997, N92658, T32870, F04002, AA348780, T23551, R52664, AI472655, AV746992, AI934175, AW089291, N50483, AI423737, AV718254, N50428, BF377223, AI221919, D60665, AI559394, Z19967, BF243415, and BE789071.
HHSBI06	212	639097	1 - 1035	15 - 1049	BE676485, N59786, AI920783, AA088744, AA779158, BF438300, BE645431, AI915060, AF271897, AF285442, and AF051651.
HHSBI65	213	801910	1 - 1430	15 - 1444	BE796723, BE541989, BF057278, BF063128, AI990159, AW003665, AW300907, AI738928, AW246641, AW594304, AI521438, AI394059, AA994208, AI130030, AW083104, AA811418, AA974513, AA761013, AA765652, AI583684, AI748894, R67183, AA483531, AA836959, AW236517, H29649, BF115987, AA747573, AA434041, AW845318, T75095, H29565, BE742632, BE386466, AW196291, AI608701, F10461, BE385745, AI474368, BE502390, BF115569, BG236177, BG230771, AI825041, R54830, AW117865, R38529, AA370939, R43648, AA215393, BE552433, AV749164, BF112242, F13491, BF058839, AI087969, AA215394,

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HHSDI53	214	862028	1 - 1263	15 - 1277	<p>AW994394, AW151201, AW865905, AW865900, AW865898, AW866014, AW865891, AI755214, AW500684, AI754567, AI754105, AW576251, AL042373, AW613805, AW069227, AI923052, AI733856, AW341978, AA847499, BE062476, BE062478, AW576191, AW023111, AA420546, BG059972, AA449997, AW576490, BF911056, BF526964, BF828714, AV763026, AV763058, AW327624, AV732057, AA579179, AA410788, AI358712, AI634187, AU147162, BF691714, AW979087, AU146620, BE062545, AW516255, BF771349, AW328202, AW500029, BG250044, BE676019, AI792529, AW131356, AV703785, AW963663, AV763550, AI249688, AW958962, T74524, AW502873, AV695478, AW474168, AW762430, AI457313, AA828834, AI080307, AI962030, AV759518, AW275432, AW819125, AW026305, BG110162, AV730440, AI421950, AA513851, AI419337, AV730986, AW851405, AU144540, AW964231, AV741914, AV760508, AI038304, BE968744, AL135377, AI636734, AI361090, AV732950, AV754716, AV762009, BG036665, AI345654, AA578621, AW970896, AW021886, AA515048, AI569100, AA557911, AA501461, AL109936, AL079335, Z69917, AP001760, AL136172, AC021752, AC009470, AL049856, Y18000, AC010271, AL035587, AC005694, AC011462, AL122001, AD000685, AC004020, AL158198, AC036103, AC011489, U63721, AC004815, AL109984, AC004797, AL133349, AC034242, AC005004, AL024498, AC005529, AC004805, AL136418, AC083871, Z97632, AC005216, AC005052, AL031670, AC007226, AC005932, AP000114, AP000046, AC016995, AL034372, AF064861, AC008745, AP001717, AL136137, AF228703, AC068799, AC005086, AC007055, AL132653, AC011445, AC011450, AC004150, AC008760, AF047825, AC006451, AC005103, AC004975, AC005089, AL135927, AC007227, AC025593, AC011470, AP000356, AL034548, AC021876, AC008736, AC005725, AC004647, AC002115, AC006552, AF003626, AL137119, AC005338, AC020916, AL133240, AL033378, AF042090, AP001725, AL391259, AC005200, AP001752, AC004867, AL117381, AC010205, AC007722, AC006449, AC007993, AC005029, AC005180, AC010605, AP001727, AC004491, AL109614, AC006348,</p>

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HHSFC09	215	801911	1 - 517	15 - 531	BE747415, AW081854, BE208811, AI924623, AI972073, BF663852, AI745446, AI978809, AA938156, AI978820, BG056186, AI139305, AV699904, AW262942, AI719131, AW009572, BE794984, AL522379, BE305172, AW129123, W72304, AI147719, BE304978, AI246124, BE301384, AI189642, AI150544, AW300743, AA826601, W17252, AI378566, AW088575, AI167851, AI033987, AI246553, N22978, R61515, AA412483, AA181715, AA908727, BE737850, AI672716, AI370457, AI869730, T03716, AI434185, AA587091, BE959535, AA706419, AI886067, AA430554, AA401768, AI499595, BF448745, AA722851, AW338391, T51593, AI310688, W31433, AI310690, AA996212, W04584,

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HHSGL28	216	801912	1 - 1079	15 - 1093	BG171741, AW173204, BF591281, BE046519, AI434116, AI924007, AI376683, T32429, AI167402, AI673386, AI264073, R54811, R60329, AA483538, BE007793, AW891793, AI276421, AA804437, Z39301, R55806, H22928, AW514504, F03372, AI864226, AA081967, AA905269, AW600295, AW149706, AW891812, and AL049466.
HILCA24	217	782450	1 - 1966	15 - 1980	BE780749, AU137314, AV732875, AW954734, AW138881, BF681107, AI079555, AI624252, AA233208, AU157126, AI734898, AW088851, BE221267, AA314962, AV715966, AA971982, AA233124, AA129416, AA133798, AA886808, AA353195, AW132033, T98200, H50558, AI888751, AI818363, BF917932, BF926224, AI784628, H50559, T98201, AK001989, AC010627, AC010491, AC016656, and AC016652.
HILCA24	218	869856	1 - 1968	15 - 1982	BE780749, AU137314, AV732875, AW954734, AW138881, BF681107, AI079555, AI624252, AA233208, AU157126, AI734898, AW088851, BE221267, AA314962, AV715966, AA971982, AA233124, AA129416, AA133798, AA886808, AA353195, AW132033, T98200, H50558, AI888751, AI818363, BF917932, BF926224, AI784628, H50559, T98201, AK001989, AC010627, AC010491, AC016656, and AC016652.
HISAT67	219	843549	1 - 2140	15 - 2154	AL519801, AL520029, AL521674, AL515614, AL519807, AL519808, AL526569, AL519802, AL520030, AL535434, AL521675, AL515615, BE798433, BE797403, AL528668, AU130192, BE745046, AL535433, AW177988, AW177985, BF526765, BE741361, BE546284, BE882894, BE745446, AI924136, AL524747, BE902340, BF796576, BF314225, BE622034, BF237909, BE257929, BF306879, BE617643, BE867904, AW374088, BE617000, BF688830, BF345850, BF688351, AW960985, AA252420, BF817742, BE622673, BE535410, AI183729, AW438568, AA769320, BF816143, BF541658, AI274790, AA058936, BF530326, BF345429, BE568171, BF315183, AA827859, AI150987, BG104230,

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HJBCU75	220	638329	1 - 995	15 - 1009	AA789332, AI925535, AW469963, AI925543, AA312696, BF732842, BE670545, AI685010, AW962841, AI690167, AA570056, AA470465, AW969303, AW770920,

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HJMAA03	221	824062	1 - 651	15 - 665	AW304711, BE677684, AW959142, AI290480, BF090788, AW571568, AI092037, N55492, BF090740, W505027, BE714108, N76979, AA361785, N70383, C02489, BF987194, BF087284, BF087325, AA732983, AI348883, AV682863, AW305097, AV691827, AL038473, AW265139, L44140, AC004867, AC004166, AL135905, AP000087, AF190464, AL391839, AL035684, AC007172, AP001694, AC007383, AC026431, AP001623, AC002558, AL133243, AL161670, U52112, AL135839, AC005180, AC024082, AC002551, AC010267, AC004883, AC007225, AC020663, AP001710, AP001746, AC006111, AL035086, AL031670, AL135744, AC005098, AC018639, AC002565, AC004491, AC018751, AC007308, AL031587, AL035458, AC004878, AC004832, AC002316, AC003950, AC006486, AF001548, AP000031, AC005972, AC005520, Z98949, AC021999, AL121891, AL049757, AL049538, AC005821, U47924, AL034379, AC009756, AP000208, AC004685, AC009516, AC004687, AP000553, AI163249, AP000247, and AC020754.
HJMAV41	222	862029	1 - 1003	15 - 1017	AL519996, N99345, AL528860, BF967736, AL528859, AL532599, AL538083, AL538011, BF527376, AL535063, BE967933, H21178, AA424063, BF529494, BF507682, AW297516, BF342788, AI422769, AI185878, AI124739, AI865987, H21121, AI816490, H18325, H21179, AI703250, AW592816, AI784327, T03789, AI369670, AA378946, H41697, H21831, H23884, BG056097, R59872, R87479, R90915, H21832, AI174201, H41664, H21166, AL519997, H41609, AL533018, AL533068, AL533347, H46526, H43588, R50960, H43587, AW162319, H18324, T23814, AA378559, AA378947, AW954445, D54991, BE504938, AA424113, R40163, Z38418, AL534514, AL537105, AL538012, AW156888, H46527, BF945915, AL534591, R38431, BF904209, R41229, BF983417, AL538084, BE967687, AF186264, AX035642, and AC003112.
HJMAY90	223	793678	1 - 2872	15 - 2886	AL528466, AL515937, AL515936, AL532237, AL525124, AL532236, AL515028, AL524995, AL528367, AL528434, BE250695, BE561358, BG111806, AV721549, BE878048, BG259396, AV704379, BE081006, AA195932, BG254477, BE514039, BG179611, BE561069, BE293120, AW957107, BG106045, AV704489, BE868130, BG178706, BE890558, BF986395, BE562551, BF530689, AW582566,

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HJPBE39	224	801960	1 - 1284	15 - 1298	AL519852, AL527399, AL515498, AL527358, AL529347, BF792443, AL515497, BE730880, BE277609, BF000393, AI962602, AL525722, BE730832, BE384867, BF686529, BE795039, AW263053, BE888955, BF304919, BF315024, BG031037, BE389217, BE049408, BE390060, BF984396, BE388113, BE348265, BF973110, BE266542, AI671396, BE867694, AI939247, BE311766, BE207532, BE544851, BE397321, BF125789, AI688503, BE616765, AW084179, BF036778, AI215805, BE276965, BE274028, BE279716, BE220591, BE886536, AV721055, AA666401, BE730577, BE266808, BE787679, AI333898, BE391366, W16684, AW952000, AL529348, BE385658, AW448966, BF307353, BE302707, AL519851, BE265722, AA186873, AW769101, BE615964, AW246258, AW235139, BG025833, AI983116, BG119203, AI767753, BE384303, BE273943, AA312411, AI948835, AI312519, AA733032, AA838388, AW673726, AW672758, N79531, AI968691, AA055433, BE263201, AI370568, AW615793, AI745361, AW675422, BE328771, AW135640, AI691056, D11879, AI352285, AW272223, D11592, AW241457, AI568807, D11608, AA583830, BE263003, BF678146, W27625, AA877583, AA099966, BF349610, AW673090, T30363, AA759230, AW672670, BE925766, AA641441, BE937913, AA188528, BF240905, AI942377, BG025864, AA055004, AW999828, AA362916, BF790356, BF332109, and A75334.
HJPBK28	225	638191	1 - 975	15 - 989	AL514305, AW293236, AW293727, H05931, AA641023, R38502, AI866873, AI401672, BF541631, AA809622, AA744709, AW300626, R60656, AW300632, AI559711, AW300658, BF591678, BF059502, AA433907, BF477999, AI143872, BF111052, AA923560, AI023411, AI580975, AW192719, AW080271, AI493147, AW242303, AW026654, AI569455, AA916462, AI281175, AI278657, AI419344, AI278903, AW305204, AI863945, BE856987, AA947586, AI954274, AI825314, BE551611, AU151920, AI422001, AI468214, BF061087, AI769184, AU159402, AI921752, AI984143, AW117197, AA446546, BE503412, AU153554, BE501613, AI656177, AI075679, AI459572, AI739249, AU158932, AI962781, BE888552, AI340045, BE328347, BG120198, AW952038, AA933635, BF870463, BF828427, BE620781, AA304007, AA446399, AI137969, AK023216, AB040953, AB045381, and AF216494.
HJPCH08	226	840365	1 - 865	15 - 879	AI655312, AW975835, AI653243, BF059498, AA731744, AW590208, AU154664,

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HKABU43	227	838573	1 - 1905	15 - 1919	BG035820, BG163860, BE779136, BG032640, BE546300, BG251357, AI890545, BF798002, AW957817, AW957894, BG164329, BE897914, AI064868, AW439699, BE868957, AI628884, AI538687, BG117638, BE075026, BE075028, BE877956, AI890859, AW241402, BF057808, AI962251, BE672376, BG254061, AI655998, W76094, AW593934, AW206368, AW070698, BF592891, BF855200, AI913939, AW242743, BE892303, W72889, AW510467, BE502137, AW852201, AW468485, AW242300, BE073158, BE073145, AI370901, AA076346, BE075023, BF761114, AI269861, BE927867, Z19251, BF229820, AA912859, AI962408, AA449269, BE869764, AA449405, AI125399, AI766912, BG230901, BF761369, R82858, BE927921, AI651447, AW852191, AW874171, AA313460, BE268347, AI440431, AW603030, AA322088, BE503487, AA373986, BE927954, BE677880, BE816387, BF679224, BE816422, BE927027, BF514420, BE297845, BE390905, BE535739, AV762904, AA564527, H29863, BE743929, AA369997, AA370398, AW957044, AA852197, AB018262, and AJ243368.
HKACI79	228	853361	1 - 1167	15 - 1181	BE620537, BE887011, AI884488, BE551571, BF678070, AA805648, AL036413, BE544147, H09313, BE866156, BE620104, BF674854, AA133345, H48651, AA490066, BF529583, BF678901, AA129731, AW468618, H48486, AA563893, BF693968, BE866045, AI014811, N34243, H90814, BE565640, BF677892, AW303196, AW274349, AW301350, N25644, AW965008, AL138265, AA521399, AI284640, AV760777, AL046409, AA521323, AI754955, BF668217, AA581903, AV733830, BG249643, AL042853, AI334443, AV760937, AV762098, AW502975, AA610491, AV762571, BG236735, AL119691, BG222267, AV759437, AL138455, AW513362, AA720702, BF592311, AV762139, AV761294, BF725504, AV735495, BF592200, AL046205, BF965007, BE139146, AA610493, AW327868, AI281881, AW407578, AV725431, BE061906, AA877817, BG109996, BE154617,

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HKAFF50	229	790192	1 - 1787	15 - 1801	BF987048, AW993075, BG106272, BF350112, BF847761, BG057131, W39473, AI373481, AW295936, AA826188, BF116045, BF155043, BF058640, AA905323, BF326859, BF155071, AI572142, AI023661, AA035149, BE242411, BF436575, AI559476, BF370930, AW801318, AW815005, AI801148, AF116667, AC010200, AC007249, AF312915, AC008738, AL022336, AC005015, AC004685, AC005089, AC005952, AF038458, Z98742, AL138836, AC003662, AC016968, AC008521, AC002425, AC008745, AC018738, AC018663, AC005412, AC006275, AL117381, AL049569, AL022721, M34158, AC004491, M31061, AK000932, M33764, X16277, M81740, AC004166, AL353653, AC006511, AC005017, AL079295, AL109657, AC003982, AC006312, AC005500, AC022154, AC004983, AC000025, AJ400877, AL136967, L48038, AC005874, AF134471, and AC011815.
HKGBF25	230	738797	1 - 1993	15 - 2007	AV763026, AV763058, AA410788, AU147162, AI133514, AA449997, AW805539, AA811741, AA713765, AW002831, AA488689, BF769368, AA721645, AI380617, BF528591, AU153296, AI342183, BE140949, AI056177, AU157093, BE178231, AW571963, H73550, AU150634, BE178064, AI590458, AU153624, AI278847, AU151428, BG250286, AA587516, AW075132, AA456924, AA228778, AV762633, AA922351, BF834843, W60612, AW805547, BE142845, AA176604, AI538491, AI434037, AA745383, AL042310,

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HKIXC44	231	716213	1 - 774	15 - 788	AL523457, AL528447, AL523456, AI829517, AW149466, AI583221, BF939526, AI421289, BF062158, BF939874, AI279154, AI418427, AI703444, AW131506, BF571573, AI936825, AI089933, AI361161, AW014685, AI536856, BF476644, BE047689, AI369406, AW021011, AI457455, AI302724, AI354478, R61374, AI079090, AA120924, AI362672, AW118437, AW178756, BF447506, H45647, H18233, AW023679, H18271, Z25058, AI361962, AA974813, AW079462, AW089212, H41457, AW970953, AW873883, BE939242, BE151736, AA664017, AA120923, H40869, BE762902, AF176422, AF232239, AF151522, AF151521, AB041590, AF172286, AJ243895, AF232241, and AF176423.
HKMLK03	232	734213	1 - 1035	15 - 1049	TI6611, BE069852, AV704467, AW961606, AV708167, AW063362, AV762430, AW962942, AI061313, AV695709, AW963895, AW963463, AA468319, AW966064, AV703573, AV702425, AA736485, AV704541, AI687343, AW960468, AW501806, BF475949, AL134330, AI1130709, AA468466, AW474921, AV729337, AI537995, AC007014, Z95152, AL022165, AL353140, AL121658, U95743, AL117380, AL133545, AL121653, AL139824, AC004081, AC003692, AP000036, AC008812, Z84484, AI109798, AC003689, AP001695, AL139150, Z83838, Z97985, AC007938, Z98200, AP001718, AC007538, AC007390, AC005412, AL121997, AL163247, AL121675, D87675, AC005539, AL049830, AL035422, AL009181, AL009172, AL008626, Z98884, AL035684, AL159970, AL049832, AC002072, AC006334, AL133245, AC004817, AC010748, AP001713, AC006112, AC009509, AP000555, AF003528, AC006512, AL445466, AC003684, AC010271, AL135927, AC007227, AC005040, AL135787, AC010789, AP001727, AL022067, AL034423, AC009032, AF205588, AC018741, AC011895, AL355497, AC012384, AP001748, U91321, AL118520, AP001629, AC004596, AC027319, AL035420, AL096700, AL391602, AC008752, AC005377, AL121754, AC007055, AC007172, Z86064, AC017111, D86992, AL008721, AC005778, AL136228,

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HKMLM95	233	840367	1 - 1084	15 - 1098	BF569997, BF969482, AW078713, AL135048, BF382693, AW954512, BE621842, AI540318, AA403127, AA176130, W72363, AI064705, BG168965, AW055210, BF694804, AA192766, BF126225, BE464942, AV712800, AI990841, N63055, AA583554, AA160795, BF940138, BE568899, AA670448, BF223879, AI127525, BF695100, AI620413, AI828512, AI433727, AA837041, AA627070, BE764626, AA861506, AI467844, AA825576, AA570546, AA156500, N73467, AI928287, AA780886, AI361333, H98773, AW891226, AW468979, AW891193, AI129623, AA995154, AI742729, BE149755, BF765155, BF796826, AI494004, AI079425, AA244009, AA782324, AI858721, BF941599, N23494, AA912653, AW891213, AA557355, AW947448, AI190082, W00578, AI131168, AA071490, AI623218, BE672562, AW891190, BE965653, AI744467, AW190295, BF941821, AI361982, AW796778, F24891, BF953854, AW891184, AW891191, BF690351, F24890, BE695653, AA516451, AA603322, T85018, AA102691, AA298114, AW004771, AA769023, AI276345, D25687, AW992461, R00279, H00869, BF132215, T99929, H81898, R71363, H00870, W74024, AI425114, BE167770, AW891215, Z28651, AI537435, AA431203, BE465030, T33976, AI701143, AA298607, AW452100, BG121955, T96534, AA342751, AI357553, R23713, BE617980, AI364811, BE816193, AA070736, AA431527, R52155, AA032280, AI866774, T91971, AW891220, AA078290, R10695, R71364, H82075, F15546, BF955700, AA401854, H16720, BE008777, BE083237, BE618552, AI572767, T35852, BE963289, R26666, AA244038, BF893162, BE695648, R10784, H81897, AA298587, AW189743, AA077178, N56242, AW075352, R41326, AW890639, BE143160, AA093065, AA971831, AA382921, F21955, BF992961, BF991377, BF754599, AA093066, AW151670, AV712799, AC006372, AB015798, and AF090927.
HKTAB41	234	695732	1 - 783	15 - 797	AW269751, BE046932, AI962247, AI652884, AI336991, BF592937, AI632408, BG260037, AI611738, AI784252, AI633419, AI863382, BF343172, AW163834, AI927755, AI500061, AI783997, BG256090, AI470651, AI571909, AI829327, BE535358, AW162189, BF342070, AL036980, BF828567, BE544111, AI886415, BE965031, BF792961, AI590120, AI918655, AI569583, AI288285, AI554821, AW059713,

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HLDBG17	235	855953	1 - 638	15 - 652	BF002740, AW015349, AW172836, N51711, BE619681, AA620652, AA639043, AA447223, AA648349, AL048032, D62490, BE930019, AI973069, AI370576, AI889304, BF885813, AW975098, BF377527, BF885812, AI370615, Z41325, BF885814, R39086, AA658236, BE708124, and AF131793.
HLCA54	236	842190	1 - 1801	15 - 1815	BG112912, AI680879, AI963168, AW977776, AI952738, AI651547, BE645090, AI769668, N50827, AI803013, D80828, BF857476, N31562, BF879870, AA983652, D61091, D61491, D61010, AI057465, D60731, D80571, D80827, D60070, AI913096, BF002733, C15654, AI051765, D81061, D81737, BF858583, N21541, BF858581, AW235869, BF880812, D61025, AA811035, AA836603, D81334, D60410, R38233, D81070, C15355, D81320, BE700338, D80572, D80549, R38234, D80695, C15477, D60304, AW050458, BF093474, AI345183, AI251588, AA937912, BF057970, AI590024, AI499555, AL047301, AL514669, AI963463, BF038742, AI918554, AW080076, AI539774, AI798359, BE883591, AI866465, BG167830, AI815232, AI866691, AI801325, AI500523, BF812438, AI538850, BE885490, AI887775, AI582932, AW167983, AI590043, AI872423, AI284517, AI923989, AI500706, AI445237, AI491776, AI926593, AI289791, AW151138, BF811804, AI521560, AI889189, AW151974, AI285417, AI500662, AI623302, AI582912, AI539800, AW172723, AI284509, AI538885, AI889168, AI440263, AI927233, AW058275,

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HLDQU79	237	740755	1 - 1474	15 - 1488	BG256275, BE867624, BE907396, BE855521, BF034422, BF530803, AW959247, BE782005, AI126689, AL121446, AA757065, AW630129, BF768037, BE746763, AA206154, AA460401, AI276320, BF998689, AA295243, BE242732, BG035901, AL040350, BE242810, T86168, BF983867, W05088, AA347337, BG252443, AI133502, AF064093, and AX011680.
HLDRT09	238	830544	1 - 707	15 - 721	AI866557, AA889696, U66673, AI653711, AW130629, AL530677, BF526233, AW468114, BG150565, BE855729, BG255222, AI632354, AL529262, AI672056, AI193721, AI149691, AL048367, AI201831, AI767058, AI364991, AW450832, AW510340, AW275893, AI150164, R49046, AA972284, AI917762, T19369, AL048395, AA954036, BE799697, W45334, AI695488, AW005652, AI867905, AW593521, BE550530, C20962, AW975426, AW772241, BE550612, AA715469, AF202366, BF857142, AI207097, AW205829, AA665913, AW072705, AI275314, AI252147, AI053412, BE042038, AI611493, AW086306, AI225259, AI335447, AI306279, AI336733, AI313009, AW074912, AW075200, AI284547, AI223483, AI340903, AI371626, AI224247, AI249854, AI611505, AI344093, AI613371,

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HLHAP05	239	638476	1 - 1828	15 - 1842	AW963016, AW979070, AA554869, AA828610, C14699, AA359181, C15123, AI380617, AW303196, AW301350, AW023111, AW974639, AI798545, AA359849, AV711430, BE252421, BG222813, BF974349, BG236628, BF804385, AI246796, BF918155, AV711465, BE180633, AW327868, BE301584, BF879045, BF965775, AA574442, AI253987, AW410784, C15415, BF761328, AI357823, BE676019, AV738383, AW270258, AW167330, AA610509, AI188390, BG029224, AV759972, AL117335, AL109976, AC009087, AL136081, AL021579, AF064861, AL163279, AL136000, AC006014, AC005067, AL049839, AL035587, AC008569, U89335, AC005052, AC003104,

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HLHCS23	240	560663	1 - 1413	15 - 1427

HLIBO72	241	883431	1 - 1754	15 - 1768	<p>AW364017, AV726728, BF035681, AA169752, AW364018, AW473802, AI983855, AI925556, AW069100, BE677197, BF382750, BF590308, AW970436, AW069481, AI341115, AA622018, AI167674, AI335907, AI377478, BE677196, AI352114, AA373289, AA826793, AA443946, AA431454, AA768408, AI274003, BF727025, AA630606, AW364013, AA132208, AW574586, AA621404, N54466, AA593091, BG166649, BF883778, BF882969, AA127838, AI695553, BF371992, BF793125, AA807643, BF965857, BF739818, BE074542, H02646, BE395704, BG249993, AV764523, BG249406, BF832747, AW964084, AW673241, AW969921, AW276827, AW969698, AW969694, BF698559, BF337291, BE350475, AI570261, AV759382, AW972871, AW731867, AI289067, AV764398, F36273, AI061334, AL046409, AI679782, AI619997, AA177061, AW088202, AW975425, AW419262, AI085719, W79504, AW472872, AW029038, AI653636, AI471481, BE047069, AI688846, AI053672, AW301350, AI904894, AI341664, AI284640, AW303196, AW193432, AW406162, AI471543, AA843450, AI801600, AL042420, AW502975, AV762395, BF680805, BF851403, BF854876, AI375710, AI431240, AW406447, AV763988, AI537955, AI963720, BF939954, AV713741, AI298710, AV735370, AI379719, AW162049, AW276817, AI653886, AI929531, BE540527, AI962050, AW517377, AI365988, AI344844, AI357288, AW274349, AW008317, AW769399, AL120502, AI368745, AW261871, AI339850, AW339568, AI017415, AW630298, BE872393, AV740801, AI434695, BF668217, AA649642, AV763540, AW338086, BG169853, AA127353, BG249643, AI053790, AV710066, AW511743, AA581903, AA577906, BG118285, AI431303, AI471534, AV760937, AI143242, BF794230, AV763633, AW193265, AI281697, AA350859, BF698579, AA610491, AV764530, AI446601, AI282832, BF210720, AI951863, AI590689, AI590958, AI951889, AU158383, AV760624, BF840326, AW833862, AA522942, AI281881, AI732186, AL038785, AI801591, AW501386, BG036665, AW576391, BE677379, AW970865, AA446657, AI334443, AP000348, AC004263, Z86061, AC007151, Z82244, AC011475, U02532, AF015160, AC005280, AC006277, AC008764, AL022322, S75201, AC012442, AL049776, AL121891, AF015158, AF015156, AC004672, AC009086, AC004898, AC005104, U12582, AC024561, AC004824, AC005520, AL031320, AL031672, AC007676, AF015151, U12584, AC002984, AF015167, D83989,</p>
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HLICE88	242	840321	1 - 826	15 - 840
				AL532043, AI201573, AL531300, AL531634, AI989422, AL531496, AL531955, AI984220, AL531518, AI954841, AL531321, AF074698, AW339929, AL531471, AV651041,

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HLICO10	243	658740	1 - 889	15 - 903	AL529328, BG112680, BG167989, AA085584, BE262006, AL529327, BG260293, BG249757, N22761, N26007, BF196867, AA280102, BF514824, BE891591, AA767358, BF939520, AI279818, BE739831, AL120055, BF963163, AI925373, AA131093, AW085504, AW162139, AL535957, AW474103, AA420445, N28638, BF956276, BF593788, AI744571, AA742528, AI435277, AI829565, AW160528, AI139035, AI493778, AI245988, AW069411, AW516063, BE910223, W15257, AI151012, BG054902, AI301040, AA722819, W76144, AI889181, AI204062, AI149031, AI347045, AI499416, AI673290, AI355297, AI129621, AA543069, AI751089, AA994980, AI362786, AI318410, AW149494, AI125569, AI079416, AW404941, AA770442, AA648851, AA629008, BE328665, AI247813, AA160319, BE440081, N22512, AA443882, AA778886, AI660433, BE931050, AA649181, AI745515, N62872, AA493744, BG056104, AI623946, AI285125, AI215715, BE222502, BE676429, AA504825, AI581011, AA620693, AI078347, DS2655, AW303949, AA687345, AI393677, BF940962, BG171314, AA749011, AV726238, AA417346, AW170474, Z33441, AI183796, AA808431, BF108904, AW874002, R68900, N36639, BF081563, BF874460, AA460912, AI801687, AA844317, AI033533, AA862981, AA164234, BF106233, AI123102, AI630222, AA132268, H97951, F09973, AA700603, BF095564, AA987560, AA310754, AI204674, AA917323, AA055734, AW303928, AA887061, AA280035, AA349683, H05230, AA099981, BF090414, AA364664, AI291170, AI468099, R68798, BF346271, N48905, D79245, AA417342, AA411885, AA722919, AA420446, AA948485, AA399258, T72608, AI432975, AA362128, AW058332, W92665, R83367, AA494154, W39243, AA846034, H95607, T34609, AA215954, H23218, AW050688, H24734, AW514476, AA923801, H66432, W72918, AI079606, R98151, H66431, AA244417, BE698764, AA804423, AA622872, T31355, AA702502, R43440, AA707618, H24733, R87113, T27438, AA558993, T59606, AA935666, D82741, D82748, R96845, AI370727, BF593775, AV701728, AA857267, T93033, AL535958, AA834104, AI758519, R38967, BF037544, BE931079, AA026767, R99802, AA781666,

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HLJBS28	244	658742	1 - 962	15 - 976	BE567776, AV700524, BF196916, AI672424, AW444907, AW675742, N22350, BF130300, AI493074, AI128167, AA813377, AA581365, AA806553, AA251305, AI077946, BE939272, AW302629, AA708974, AA280790, AA868066, W57951, AA732853, N48892, AA602429, AA281438, AA451619, AI280014, N75214, AA281368, AI434509, AI287995, AI807299, AI907315, BF223560, AW236045, AW630367, AW935099, AA280750, C00449, AI494205, AI832681, AA419487, AI907335, AI907325, AI907322, AI907316, H43026, AI907338, AA251633, AI907336, AI907339, AI907421, AI907320, AA450216, AI907328, BF885933, AI907317, AI907330, AW627341, AA419544, AI907332, BE172973, AW820280, AI907326, AI907323, AI864966, W58084, AW820475, BE163982, AI907333, AI907318, AI907331, AI907337, AI907334, AI907327, AI907319, and AC008482.
HLMBW89	245	701996	1 - 608	15 - 622	AI802901, AL525060, BF339743, AI889514, BE899479, AW026514, AL522334, AA464368, AI889524, AA632076, AL530537, AW962261, AW272715, AA081418, AA417376, AI689262, AA464386, AL525059, AI281824, N99927, AA680361, AW264836, BG114962, AW022729, AW022859, AW968234, AW022849, AW020287, AA456473, AA629813, AA594133, BE792441, T06003, AW848654, BG112394, BE041335, AI961941, AW269290, AW474379, AA700910, AI538989, AI075918, AW250197, AA319841, AW935332, AW612947, N93194, AI421046, H81794, BF438369, AI094322, BE048443, AI935462, BE870520, AA352936, AA675922, BG178467, AI263242, AA478734, AA464702, AA493371, AI688358, AI767408, AI688521, BE677149, BE168899, AA024843, AI336330, F09704, AA527428, AL514699, AI919046, AW968236, AI273221, BE905535, AI269409, AI904291, AI529150, T66281, BF914185, R94431, BF912784, BE746553, BE866080, R52791, BE735854, AI530538, AL528593, R95684, AI247775, W38780, N57835, BG180414, AW268970, N42879, BF314717, AI816825, AI766194, AI611368, T98208, AA256650, BE048769, AL529754, BG178286, AW302197, AW191640, AA464275, AW769956, AA173157, AA364692, AI566133, AW589478, AI278645, AI184566, AA416981, AA380399, BF836166, AI093813, AI160031, AC000378, AB019038,

					AK001523, AK026807, Z66003, and Z66002.
HLMGP50	246	647603	1 - 1049	15 - 1063	AA757562, R84390, BE206718, AA076888, AA262606, BE185269, F03281, F02669, AC005922, AP000036, AC004139, AP001713, AL121932, AL031311, AP001699, AL132656, AP000099, AC005378, AC018663, AX015913, AC005144, AP0000263, AC008250, AL050309, AC004020, AC004805, AC007749, AC006337, AC006947, AL356137, AL023279, AC006305, AC004905, AC005274, AL022152, AC004554, AC008074, Z82198, AC006231, AL356739, AP001700, AC007432, AL137145, AL353739, AL356311, AC010252, AC010361, AC012611, AC005476, and AL035697.
HLMJB64	247	658699	1 - 790	15 - 804	AA009680, AA009679, AW001223, AA010946, AW029359, BF957577, AI905884, AA777011, AL122043, and AL034550.
HLMMX62	248	688051	1 - 254	15 - 268	AL024507.
HLQAS12	249	886180	1 - 2436	15 - 2450	AI928113, BF982378, AI357634, AI765282, AI453115, BG231939, AU157262, AV708295, AV727507, AW082681, BE501554, AI188985, AI095135, AU156104, AV726829, AU135631, N51624, AW440717, AU156188, AI244310, BF934257, AU137679, AU135523, AU138854, AI300045, BF917907, AA044216, BF914890, AA938683, AI868392, N75085, R78358, AA044087, R31345, H68138, R78357, AI419044, R62557, H67054, BF858325, AA620341, R26153, AI243883, R23598, R31604, AW969916, AA528481, BF110458, BE174919, R07930, AA682386, AA114093, N53919, AW298577, BF895809, AW796811, AB017444, AF079167, AB010710, AF035776, AR077718, AI131757, AF079166, AB017441, AF079165, and AB017440.
HLQCL64	250	864966	1 - 2371	15 - 2385	AA773632, AI719611, AI831841, AA484843, BG236266, AW958537, AW613564, BE042553, AI660746, AA621132, BG236374, AI693953, AV656458, AW014829, AW272370, AA381158, AV686654, AW129914, AV686826, AV658659, AA381159, AV653670, AA381471, AA344791, AW300933, AB008775, and AF016495.
HLQCX36	251	584786	1 - 1229	15 - 1243	T82696, AV738722, AV740060, BE049088, AA366035, AW406755, AW086257, BE139371, AI358229, AW301818, AI569202, AU118745, AV757395, AW974890, AI286264, AW303196, AV759204, F29989, AW301350, AI307426, AW851028, AA665330, AA661948, AW023672, AL138265, AI252085, BF213082, AV762645, BE796439, AI625244, AW129001, BE165532, AW839174, AA501784, AA626678, AW361583, AW169397, AI365988, BE063133, AW339687, BE205860, BE349302, AI635272, BG014866, AU146189,

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HLWAF06	252	658701	1 - 2550	15 - 2564	AI200546, AI375003, AI539235, AW958191, AI539245, N56844, N32422, R12099, W16664, AA455776, R36853, AA456599, Z42638, AA953366, Z38803, AA376936, N83692, AW470346, W31889, BF059487, AI051575, H78064, and AL139123.
HLWU42	253	840855	1 - 2481	15 - 2495	AW994202, BE881709, BF575615, BE878264, BF511494, AI743425, AW025235, BF671395, N36954, BF575996, BF589732, AI806452, AW020533, AA917950, AW956671, BF248388, AI127390, AI828595, BF695312, BE544553, AI275973, AI246128, BE350129, BE813584, AI373941, BE857030, AA132201, AA173611, BF224114, AI095137, AI217284, N33440, AI969577, AI242521, W67395, N93171, AW504320, AW874661, AI525660, AA525797, BE813540, AA670252, H05198, AA131236, AW844409, W00471, AW014620, AA573687, AW440586, W67250, N51666, AA953867, N42414, N36855, H98104, AW375401, AW069360, AA131940, AA368700, H96912, AA613814, BF155640,

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HLWAU42	254	695737	1 - 933	15 - 947	BF575615, BF248388, AI743425, N36954, AW025235, BF589732, AI806452, AW020533, AA917950, AI127390, AI828595, BF695312, AI275973, BF671395, AA173611, AI246128, AI373941, BE857030, AA132201, N33440, BE878264, AI217284, AI969577, AI242521, W67395, N93171, AA525797, AW504320, AW874661, AA670252, AA131236, BE813584, AW844409, AW014620, AA573687, AW440586, W67250, BF575996, N51666, AA953867, N42414, H98104, AW069360, AA131940, H96912, AA613814, BF155640, AA953290, AI049610, AI525660, AA173610, AW375401, AI370204, AI370185, F09577, H05159, H27178, T65023, AA730005, AW799253, H25040, AW337747, BE544553, AA601931, AW994202, AW882494, AW021670, BF081928, BE000561, AI149153, AW956671, BF095801, BE392121, W38797, AA131357, BF095790, BF224114, BE813540, and AL049471.
HLWAV47	255	897769	1 - 2048	15 - 2062	AU134635, BF970923, AW299310, AW172863, AI480424, AU155551, AW771898, AI913412, N22470, AI564411, R96113, AA018040, AW953032, H03718, R63626, H02827, H04026, R63612, C03429, R63627, H03345, AA343143, AA001617, R63613, R96075, AI820094, AI742556, BE926861, AI289791, AA814782, AA504514, AI499986, BF107423, AI491710, AI696340, AI609478, AI648699, AI334445, AW301409, AW583111, AW084896, AI521799, BE047852, AV682326, BE883591, AW834302, AW029457, AI71429, AL040011, BF726255, AI915049, AA808175, AW087879, BE439844, BF337541, BE886790, AW087217, AL036150, AW020381, BE904911, AI539028, AI886355, AI955945, AI476694, R65859, AI439664, AV734654, BF925370, AI926593, AW151451, BF343238, AI688854, AI539260, AW089275, BF338027, AI289436, AI433611, AI446457, AW151132, AW088899, AW021717, AI432040, AW189563, AI803935, R80916, AI859644, AW022636, AI538885, BE790023, BG105099, AV710208, AI680418, AI587567, AW088605, BE393784, AA488166, AI923989, AV757158, AW088560, AI689096, AA745069, AA587120, AW087886,

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HLWBB73	256	740757	1 - 1702	15 - 1716	<p>BE748913, BG254872, BE748391, BF672324, BF966703, BF671902, BE788316, AA203123, BF212040, AA218859, AW377115, AA203627, AW377116, AW466993, AA453001, BG110856, AI814390, AA442115, AW500165, AW028118, BE349724, AI338468, AA776470, AW994505, AI889182, AA587997, AA477530, W88637, W90004, H24135, AW118873, AA777649, AI803064, BF109783, BE677049, AW504429, AW440623, H18779, AA442065, AA452862, AW851386, AA426118, AW302201, AI129606, BF591306, AA969289, AI017372, AA846715, AI261586, AI590199, AI038086, BF477702, AA705970, H08497, AI033228, AA479047, T08154, AA465370, AW769960, D82524, AI335551, AA745763, AI241602, AA442204, AI242610, W88555, H16440, AW302548, C75525, AA133175, C06435, R42254, AA463878, D82526, D82474, AW058542, T84064, R42953, W90048, AW269034, AW081189, AA465445,</p>

					AA349461, R18274, T86365, AI475416, T86302, Z25120, H08650, T74461, H56028, AA648167, AW611503, AA370198, BF091449, N67780, AA370652, H08651, T77949, T86401, N94739, BF001494, AA442169, F10246, AA325886, BF437154, D20156, H60364, F13771, R18054, W03406, AW377119, AA370197, AV741440, AV748910, T86104, AA328402, AI370219, H08774, BF091351, AA058603, H59092, AA703118, AV660168, BE244733, BF091441, F13474, T16351, T10772, AA385806, R15577, AI948928, C15482, W02814, AA134844, AI718608, BG055503, AW971745, AW884363, BG179403, AW877209, AL119457, AW392670, AL119324, AW804686, AW604723, AL119319, AW861944, BE695785, AW858526, AL119484, AW858525, AL119399, U46351, Z99396, AL119363, AL119391, U46350, U46347, BE705903, AL119497, BE705906, AW577135, AW372827, AW384394, AW861889, AW858455, AW363220, AL119355, AL134902, U46349, AL119418, U46341, AL037205, AL119443, AL119401, AL119522, BF868684, AL119439, AL119444, AL119496, AL119483, AL119341, BF868697, AW604726, BF868687, AL134525, AL134536, BE705905, AL119396, U46346, AL134531, AL119335, AI142131, AL134518, AL042544, AL134538, BE705904, AL043019, AI142132, AW861954, U46345, AL043029, AL042542, AL039851, AL042614, AL042965, AL042450, AL042984, AL042975, AL043003, AL119464, AL117352, AF246631, AJ227859, AF244812, AR080280, AB026436, AR060234, AR066494, AJ279014, AR054110, AJ251859, A81671, AX046357, AX030435, and AR069079.
HLWCN37	257	827294	1 - 774	15 - 788	U51712, AW469993, AI683579, BF593972, AA156672, AA813352, AI656238, AA922773, BG054836, BF437484, AW969027, BG232024, AW593806, AA152031, AJ278586, BE170409, AI141452, BE169576, AI190863, BF195209, AA215646, BF432354, AV762498, AI394467, AW795397, N55048, N34760, AI161277, BE774626, AV722766, BE169455, BE774627, BE774616, AI634745, BE169747, BE169704, BE169842, AI363039, BE169794, AW809164, BF526036, AW103704, BE169524, BE169419, AA215833, AW795399, AI150452, AW809204, AW809241, BE169413, BE169788, AW809275, AA781840, AI201538, BE169790, AA251832, BE169521, AW809252, BE169640, AW809200, AW191924, AW809276, AW809277, AI193438, BE774631, AI302248, AA938737, AA831840, AI088468, AW809230, AW809278, AW809218, AI242686,

					BE169705, AW809211, N50718, AA916391, AA152105, T70605, AI865680, BE169744, H48216, BE169573, AI520796, AA412667, AI285160, AA405274, AA416721, N46883, BE169839, N49575, AV705027, BE931668, BG178168, AA936977, BE169743, AI094355, AA988894, AW795323, AA857217, BE169840, BF337308, BE169642, R60055, BE169574, AI784608, AV759943, BF989643, AV761542, AI346652, BE328856, BF575818, R41659, AW900685, AA987752, BE169575, AA279656, BE169745, R82244, AA368868, F09500, T94683, AI694738, AW612768, W74715, AA991473, AA156844, AA251947, R40299, BE169517, AW959220, BF718508, AA504398, AA779408, BF718322, R33470, BF718460, AW075143, AI345902, T96422, AI377613, AI611930, AW955211, D78826, F04641, T70871, T96505, BE465046, R51264, AA548648, BF718332, AI312402, BE169838, AA828485, R43610, H40897, BE169418, AV738470, Z38388, AI311285, AA470387, BE937290, D30839, BF974238, AW405055, BF215689, BE169416, AA504137, AA588028, BF718466, BE169843, AI311341, AI308514, AV764537, AA732515, AI434528, BF985829, AI307539, BF985928, BE773662, H48308, and AB019573.
HLWDB73	258	838453	1 - 1597	15 - 1611	BF971220, BE271581, BF345023, BF344964, BE619941, AA625452, AW028095, BF430930, AI609104, AI911525, AI609099, AW665743, AW955764, AW500427, AI627250, AI889849, BE896624, AI372026, AW022223, BF196153, AA211659, BF240692, AI032423, AI566245, BE886116, BE780093, N30002, BE178263, AW272297, AA234573, AW271380, BE890845, BE504952, BF664955, AA025014, AW293345, BE178165, AA152344, AI826620, AA912524, AI624914, AA968776, AI419745, BG031738, AA776814, AA148773, AI459063, AA939122, AA903022, AW293076, AA148522, AA983250, AW087692, R82926, AI698240, BE831223, BE866984, AA488906, AA703549, AI868430, AI652185, AA903813, AW360767, BE785395, R11630, N36347, BG253057, R17076, AA234633, AW022362, AW779804, AA373273, AA233342, R78253, AI206273, BF998023, H79886, BF754944, BE568858, AI300243, AI470408, AI253703, AA025015, H79793, AW195604, AI473421, R17075, AA234809, T62124, R57910, AW630574, AI216204, BE180746, AI767639, R78252, BE551368, AA330063, AA134581, AV746640, AW503076, R52215, AI284386, BF431274, BF743854, AA134580, BE259189, T32637, BE156874, BG117309, AI445820, BE906756, BF674513, R09836, AW407399, BE780277, D20908, AA878923, AI547312,

					BF801235, AA213842, AA091460, BE183666, AA334229, BE708459, R57316, BG180776, AK024669, and AK027236.
HLYDF73	259	566869	1 - 612	15 - 626	
HLYEUS9	260	582084	1 - 1132	15 - 1146	BF968135.
HLYGB19	261	838083	1 - 2953	15 - 2967	BF718797, AL530914, AU122015, AI761694, BF038798, BF974159, AA449050, BF975260, BE735899, AI188455, AU134674, AW968498, AW960634, AV684895, AW131552, BF203871, AV684924, AV683742, BF244139, BF033060, AA776474, AW401753, AI479963, AW770118, AW009452, AI097214, BE762877, AI335977, AI762159, AU147719, BF829908, AW081547, N31953, N54405, AW968675, AW027335, AI021890, AI129620, AI138490, BF829004, AA844148, BF828312, AV698851, AW574571, AW239446, AI129265, AA906378, AI034375, BE939298, AA761562, AA116132, AI309628, BF082209, AW451927, BF829026, AW408327, AI051106, AA630084, BF569686, AA036712, W45195, AI032728, AI339926, AI074132, AI471599, W22022, BF082207, BE939304, AI189152, AV710898, AA927339, BF306015, AI809033, AA808345, AW631461, AA805537, W56021, AI369598, AW181953, AW959382, AA604051, AI301504, AI243700, AA908734, AI302040, AA116133, AA905111, T16006, AI250836, AI061222, AW166610, W79663, AA218662, AI025631, H14227, AI244792, BF350111, H30465, BF341081, AA040473, AA815302, AI040662, R47459, R14799, H25817, AL530913, W22981, N58286, BF829355, AW468255, AA358781, T11517, AU158189, AA815303, AI244838, AA338759, H20744, AI090355, AA449764, AI446423, T33500, AW771363, AI866647, AA845385, AW473577, Z42948, T93787, T33501, AA045487, AW374532, AW771413, AI042636, BF514249, AW374660, AU155575, AA782096, H20745, AI051438, AW589392, AW513929, W81374, D52633, BF082994, T34695, BF828305, AA545751, AA034333, N86776, T31905, R02426, AA553569, BE927112, AI609652, AW074694, AA333215, AI911074, N56158, AA854272, AA595479, AA249082, R02324, AI919036, AI369954, AW627681, N90614, AI860902, AA057344, AI597712, AA853614, AA366427, W19151, AA334888, AA094393, AI079979, D60062, N88499, AA094034, AW087898, R58414, AA282579, AA095396, AI691125, T93832, AW131456, N55949, Z39072, N88847, AA550945, AA248097, BF826420, R45852, N89101, R58270, BE708597, AA338758, AI917872, AA853613, BF376677, N56337, AW078511, AW793656, AA282656, AA480917, BF094247, BF109813, AW381449, N53121, R40110, AW381451,

				AI077861, AW793657, AA788640, BG222312, BF828881, AK027232, AX048079, AK023425, and Z14122.
HLYPE16	262	651339	1 - 738	15 - 752
				AW469203, BF820842, BE218294, AW196671, BF447223, AI696980, AW236972, AI027666, BF798334, BF807954, BE217850, T59291, AI267964, R44968, AW444500, AW295686, AW291949, AI928514, AI823933, AU153630, AI139764, BE005097, AI948643, BF108749, AI126466, AW242784, R49472, AU160792, AW273139, AI273589, AW589378, AI274894, BF448101, AW510475, AI302181, AI400517, BE550344, AI365030, H18516, AI206723, F09161, F09171, AI696176, AI992327, F09169, AW051573, AA847131, R86756, AU148421, AU154040, AI421825, AU159186, AI146780, AI910733, AA868280, AA722823, BE504675, AI739531, AU152829, AA868452, AI911876, BE552250, AI168680, AI954643, AI913116, AW237207, BE502531, AI142459, D80575, AW002567, BF939794, D80957, AA702863, BF591908, AA455456, AI015316, AA922953, AV645338, AA514480, AI420243, R86981, AI420270, T59250, BF508779, R60233, R51570, AI580357, W86599, AA417873, AA085431, AA227559, AA852691, H57046, BF845379, AA192359, AI580716, AA455455, AA776815, AI140464, AA075296, BE300079, R27183, AA814809, AW105331, AA024748, D81100, BE620885, BF845381, R27182, BF912382, BE904044, BE904041, BE881261, BE965135, AI631590, BE51572, AI656791, AA282050, BG055430, AA937231, AC025594, and AK022910.
HLGYG91	263	658703	1 - 626	15 - 640
				AW294783, BE502344, BE222441, AI082255, AI031661, AI701563, BF431032, AW340159, AI250886, AI164268, AA113365, AW195764, AA813476, AI382168, AW044458, AI802164, AI149406, BF196258, AU155794, AA479123, AI167291, AI436306, AI224847, AI417116, AI709346, AI669258, AW772002, AA844518, AI282711, AI279738, AW195230, AW959069, BF002627, AI560087, AI286319, AI474555, AI092394, AA479124, AA243709, AI468637, AW991244, AA508073, AA243826, AI468739, T62160, AW975954, T61934, BE707630, BE169617, BF747189, BE832694, AA746981, AA328991, and AK023448.
HMCZA04	264	839783	1 - 1719	15 - 1733
				AL523497, AL523496, AI804917, AW973481, AI133370, AV716073, AW024415, BF027170, AI302184, BG120804, AW955102, AV692708, BF108769, BF691126, AW273859, AV700904, AV699357, BE264000, BE386262, BG169469, BE789575, AA948547, AI299954, BG236229, AW516856, AW043839, AV685386, AV688204, BE546468, AA639665, AA911904, BE819542, AI097457,

					<p>AW119093, AI522298, BE819457, BE819514, BE839222, BE819567, AW182738, AI222830, BE819505, BG170954, AI305813, AA527252, W96028, AA526991, BE839045, BE819511, AA280758, BE831532, N50841, BE790051, AA643646, BF371410, AI290542, BE674172, BE819590, BE819554, W94661, AI240325, AI751876, AI290551, AI300130, AA885922, AW050812, BE871104, AA664347, AV659324, BF219419, AA838720, T74688, AW176080, C75117, AI400510, AA100857, BE018093, AA056968, BE819468, AV693575, AV692481, AV645491, N54246, AA481324, AI880359, BE772570, AV692975, AI394339, AV645442, BE819545, AV694085, AV694699, AV653729, AA281439, AA486172, AA468902, BE939493, AV719793, AV695940, AI751877, AV660065, T95295, AA359423, D20113, BF379099, AA643688, BE819461, BE831675, AW854105, AA385681, T95375, AI890004, AA359712, AA057016, N58703, AW071048, T74801, R50203, AW054934, Z19305, T64005, BE716219, AI635828, AI928438, AA602300, AI685551, BE301581, T36144, R40496, AI262366, AA133917, AW970142, AA514233, BE819546, AW970145, AV716521, BF752093, W45353, AA315963, BF912723, AI273020, T86288, AW768388, AA533897, T90950, AA486109, R50150, AW273588, T86387, AI635443, T85836, AA587303, BF359777, AA353447, BE839081, T98225, R13065, T64084, AA353040, AA383720, AA513774, BE819498, BF771959, AW945448, AA669130, AI872115, AI367142, AI758444, T27349, BE008461, BE819456, AW467705, AA253283, AW316697, W15319, AI819151, AI571469, AA382189, BF359773, AA361822, AA130233, AI557206, BE831556, BE831640, AI613022, AI401483, AA576059, D82703, BF000110, BF678342, BF359762, AA703984, AF151802, AF042284, AF118085, AF174535, and D82662.</p>
HMCZA04	265	858210	1 - 1719	15 - 1733	<p>AL523497, AL523496, AI804917, AW973481, AI133370, AV716073, AW024415, BF027170, AI302184, BG120804, AW955102, AV692708, BF108769, BF691126, AW273859, AV700904, AV699357, BE264000, BE386262, BG169469, BE789575, AA948547, AI299954, BG236229, AW516856, AW043839, AV685386, AV688204, BE546468, AA639665, AA911904, BE819542, AI097457, AW119093, AI522298, BE819457, BE819514, BE839222, BE819567, AW182738, AI222830, BE819505, BG170954, AI305813, AA527252, W96028, AA526991, BE839045, BE819511, AA280758, BE831532, N50841, BE790051, AA643646, BF371410, AI290542, BE674172, BE819590, BE819554, W94661, AI240325,</p>

					AI751876, AI290551, AI300130, AA885922, AW050812, BE871104, AA664347, AV659324, BF219419, AA838720, T74688, AW176080, C75117, AI400510, AA100857, BE018093, AA056968, BE819468, AV693575, AV692481, AV645491, N54246, AA481324, AI880359, BE772570, AV692975, AI394339, AV645442, BE819545, AV694085, AV694699, AV653729, AA281439, AA486172, AA468902, BE939493, AV719793, AV695940, AI751877, AV660065, T95295, AA359423, D20113, BF379099, AA643688, BE819461, BE831675, AW854105, AA385681, T95375, AI890004, AA359712, AA057016, N58703, AW071048, T74801, R50203, AW054934, Z19305, T64005, BE716219, AI635828, AI928438, AA602300, AI685551, BE301581, T36144, R40496, AI262366, AA133917, AW970142, AA514233, BE819546, AW970145, AV716521, BF752093, W45353, AA315963, BF912723, AI273020, T86288, AW768388, AA533897, T90950, AA486109, R50150, AW273588, T86387, AI635443, T85836, AA587303, BF359777, AA353447, BE839081, T98225, R13065, T64084, AA353040, AA383720, AA513774, BE819498, BF771959, AW945448, AA669130, AI872115, AI367142, AI758444, T27349, BE008461, BE819456, AW467705, AA253283, AW316697, W15319, AI819151, AI571469, AA382189, BF359773, AA361822, AA130233, AI557206, BE831556, BE831640, AI613022, AI401483, AA576059, D82703, BF000110, BF678342, BF359762, AA703984, AF151802, AF042284, AF118085, AF174535, and D82662.
HMCAZ04	266	867910	1 - 1719	15 - 1733	AL523497, AL523496, AI804917, AW973481, AI133370, AV716073, AW024415, BF027170, AI302184, BG120804, AW955102, AV692708, BF108769, BF691126, AW273859, AV700904, AV699357, BE264000, BE386262, BG169469, BE789575, AA948547, AI299954, BG236229, AW516856, AW043839, AV685386, AV688204, BE546468, AA639665, AA911904, BE819542, AI097457, AW119093, AI522298, BE819457, BE819514, BE839222, BE819567, AW182738, AI222830, BE819505, BG170954, AI305813, AA527252, W96028, AA526991, BE839045, BE819511, AA280758, BE831532, N50841, BE790051, AA643646, BF371410, AI290542, BE674172, BE819590, BE819554, W94661, AI240325, AI751876, AI290551, AI300130, AA885922, AW050812, BE871104, AA664347, AV659324, BF219419, AA838720, T74688, AW176080, C75117, AI400510, AA100857, BE018093, AA056968, BE819468, AV693575, AV692481, AV645491, N54246, AA481324, AI880359, BE772570, AV692975,

					AI394339, AV645442, BE819545, AV694085, AV694699, AV653729, AA281439, AA486172, AA468902, BE939493, AV719793, AV695940, AI751877, AV660065, T95295, AA359423, D20113, BF379099, AA643688, BE819461, BE831675, AW854105, AA385681, T95375, AI890004, AA359712, AA057016, N58703, AW071048, T74801, R50203, AW054934, Z19305, T64005, BE716219, AI635828, AI928438, AA602300, AI685551, BE301581, T36144, R40496, AI262366, AA133917, AW970142, AA514233, BE819546, AW970145, AV716521, BF752093, W45353, AA315963, BF912723, AI273020, T86288, AW768388, AA533897, T90950, AA486109, R50150, AW273588, T86387, AI635443, T85836, AA587303, BF359777, AA353447, BE839081, T98225, R13065, T64084, AA353040, AA383720, AA513774, BE819498, BF771959, AW945448, AA669130, AI872115, AI367142, AI758444, T27349, BE008461, BE819456, AW467705, AA253283, AW316697, W15319, AI819151, AI571469, AA382189, BF359773, AA361822, AA130233, AI557206, BE831556, BE831640, AI613022, AI401483, AA576059, D82703, BF000110, BF678342, BF359762, AA703984, AF151802, AF042284, AF118085, AF174535, and D82662.
HMCAZ04	267	887445	1 - 1721	15 - 1735	AI523497, AL523496, AI804917, AW973481, AI133370, AV716073, BF027170, AW024415, AI302184, BG120804, AV692708, AW955102, BE108769, BF691126, BE264000, AW273859, AV700904, AV699357, BE386262, BG169469, BE789575, AA948547, AI299954, BG236229, AW043839, AV685386, AW516856, AV688204, BE546468, AA639665, AA911904, BE819542, AW119093, AI097457, AI522298, AI222830, BE819457, BE819514, BE839222, BE819567, AW182738, BE819505, BG170954, AI305813, AA526991, AA527252, W96028, BE839045, BE819511, AA280758, BE831532, N50841, BE790051, AA643646, BF371410, AI290542, BE674172, BE819590, BE819554, W94661, AI240325, AI751876, BE871104, AI290551, AI300130, AA885922, AA664347, AW050812, AV659324, BF219419, AV645491, AA838720, T74688, AV693575, AV692481, AW176080, C75117, AI400510, AA100857, BE018093, AV692975, AA056968, BE819468, N54246, AV645442, AA481324, AI880359, BE772570, AV694085, AV694699, AV653729, AI394339, BE819545, AA486172, AA281439, AA468902, AV695940, AI751877, BE939493, AV719793, AV660065, T95295, AA643688, AA359423, D20113, BF379099, BE819461, BE831675, AW854105, AA385681, T95375, AA057016, AI890004, AA359712, N58703, AW071048,

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HMCAZ04	268	668249	1 - 1287	15 - 1301	<p>AL523496, AI804917, AW973481, AV716073, AW024415, AI302184, AV699357, AV700904, AW273859, AI523497, AA948547, BG236229, AW043839, AW516856, AI299954, BF108769, BE819542, AA911904, AA639665, AI133370, BE819457, BE819514, BE839222, AI097457, AI222830, BE819567, AW182738, AI522298, BE819505, AW119093, BF691126, AI305813, AW955102, W96028, BE839045, BE819511, BE831532, BF371410, N50841, BE819590, BE819554, AA527252, AA526991, AA643646, AI751876, AI290542, W94661, BE674172, AI240325, AI290551, AW050812, BF219419, T74688, AV659324, AI300130, AA885922, AA100857, BE819468, BE772570, AA838720, AI400510, AA664347, C75117, AA056968, N54246, BE819545, AA481324, AA281439, AA486172, AI880359, AA468902, BE939493, AV660065, AV719793, T95295, D20113, BF379099, AA643688, AI394339, BE819461, BE831675, AW854105, AW176080, T95375, AI890004, N58703, R50203, AW071048, AA280758, T74801, AW054934, T64005, Z19305, BE716219, AI635828, BE301581, AI928438, AA602300, AI685551, AW970142, AA514233, AV716521, BE819546, BG120804, BF027170, AW970145, BF752093, T36144, AI262366, BE789575, AV692708, R40496, BF912723, T86288, AW273588, AI273020, W45353, AA486109, T86387, T90950, T85836, AI635443, BF359777, AA587303, BE839081, AA533897, AW768388, T98225, R50150, T64084, BG169469, BE264000, BE819498, AA513774, AW945448, AA669130, AI872115, BE386262, T27349, BE819456, AA385681, AA253283, AI367142, AW316697, AI758444,</p>

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HMCFH60	269	654853	1 - 429	15 - 443	BG029413, AW410249, AL120205, AL527305, AI754933, AW410004, AW411240, BE207947, AI348361, BG254821, AV717836, AI282565, AW015954, AI860745, BF970512, AI279557, BG250088, AI301063, AI887607, AW675703, AI277972, AI751711, AI610303, AW168266, AI954092, AW732241, AI199700, AI310726, AA533655, AI219656, BE047165, AI828679, AI829142, AI874208, AI741030, AI445423, AW339140, AW872712, AW872550, AI310725, BE675720, AW276596, BE049270, AA526998, AI300518, AI805844, AI814591, AA832328, AI927014, AA461097, AW337251, BE393698, AI453250, AW009901, AA522451, AI970703, AI147456, AI799656, AI866733, AI092937, AA526185, AI721118, AI017038, AI613235, AI339100, AW148657, AI538694, AW008035, AW269978, AI818220, AW130721, AI369774, AW778916, AA508660, AI285115, AW118526, AA280728, AI803837, AI078009, AI249388, AW274402, AA449775, AI741564, AI983830, AI953077, AI283484, W94943, AI186921, AA573897, AI078388, AA670351, AI423558, AW273429, AA745775, BE727124, AI591031, BF732731, AA903469, H98073, BF973696, AA628743, AW270071, AA987523, N91829, AI144428, AI081865, BG057107, BE797291, BE798645, AW899935, N34882, BG057959, AA065282, BE910046, W68425, AA132945, H26397, AA130713, AI535963, AA526103, BF436402, BF924840, AW189969, AA813305, F25776, R59097, BF793976, AW071554, AI102712, AL527475, W90665, AI533663, AL523124, AI246999, AW194200, AA677814, AW150820, AA004278, AL533350, AI983597, H25535, AI282522, BF941561, BE617576, BE613255, BF689583, AI521962, BF568937, R56834, AL524248, AI299507, AA805472, H46569, AW004802, BF828652, AA580297, AI364662, AA703237, AL521083, R56835, AA628330, BF570271, BE877417, AI365012, H56058, AA229754, AA229480, AA302484, AI918967, AI553849, AA373811, BF688841, AA853526, AI560300, AW470964, AA682774, BE858486, BF914567, AA496495, AI950742, R56673, AA526614, AA496620, R96820, AI972733, AA868647, AA644220, AA447147, AA228723, BG015338,

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HMDAB29	270	584789	1 - 1176	15 - 1190	AV756491, AA714011, T74524, AW970571, AI284543, AA847499, H07953, BE139139, AI250552, BE676912, AI251284, AI251034, AI251203, AI042373, AI254770, BG169404, AW504485, AI223626, BE062159, AI755214, AW303098, AW500684, AI754567, AI053398, AI792575, AI754105, AI278972, AW576251, BE138594, BE138387, AW023111, BE315483, AI923052, AA449997, AW973992, AV762354, AW969667, AA829036, AA937809, BF725844, BE150796, BF832074, AW973757, BE968744, AI254779, AA773463, AI085242, AL119247, AI962030, AV763550, AW467607, BE674881, AV649707, AI674840, AA630854, AW167330, AV710482, AW265342, AV762975, AV649853, BE256101, AA315361, AW850517, AA828834, AW958962, AA828054, AI687343, AW963463, BG012020, BF854170, T11828, AW270771, AA621865, AI963720, AW502237, AV733437, AV723671, AA127426, AI732151, AL042667, AL042670, AI745151, AI249853, BE160727, AV762633, AW965008, AL119921, AI620992, AW969831, AA809546, BG110480, AA680243, AA618316, BG152386, BG115297, AW471332, BF950533, AI627614, AA524616, AA828637, AI524193, AW500161, AV763540, AV738383, AI613389, AI890971, AI279417, BG105498, BF724372, AL524675, AW970064, AA683069, AW265688, BF868994, AI049676, BG026977, AI457389, AW193265, AA503019, AI334248, AI440117, AA651639, AK025218, AC007308, AC002470, AC004824, AC010271, AL031283, AC005399, AL136305, AL135927, AC007227, AC011455, AC016602, AC006337, AP001718, AL049839, AL033524,

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HMDAD44	271	566854	1 - 1190	15 - 1204	BF574085, and R12644.
HMEBB82	272	783077	1 - 2627	15 - 2641	AL524291, AL524729, AU118659, AU133235, AU124686, AW954541, AL524290, BG028716, AU126842, BF981431, BE440113, BE535372, BE890887, BE542290, AV707356, AA526812, AV722904, BG258320, AV727093, AU132991, AW574815, BF983457, AU134900, BE542029, AU125349, BG028338, AV719859, BE548985, BF669318, AW575156, AL524728, BG251868, AU132576, AU154083, AA805660, AA232722, BE246166, AA258087, BE081452, AW195058, AA523691, BF212023, AI961333, AU148498, AU145167, AI885542, AW016858, AU149026, BF814600, BG251123, AW407266, AW996403, AI860657, AI160776, AW188441, BF106148, AU154605, AW167114, AW103061, AI807990, AA426442, BE243014, BF664827, BF515106, AU131495, AI809623, AU146196, AI858947, AA926661, AW369769, BF105153, AV719564, W31168, AA251059, C14920, AI222446, BE077064, AI223373, AA523339, AW952518, AW369773, AA523446, AV681553, BF106381, BE301614, AA665998, AA262023, AW403080, AA788602, AA704695, AA042812, N53383, BE881460, AI559547, AA043050, BE220678, AI473738, D60300, AA548731, AI372891, AA214602, AI621304, AI038459, W37992, AA236516, AA962169, BE086651, D60285, AW268711, AI469501, AI222084, D60566, AU123583, D60953, AI220196, AA437174, W00737, AI915924, T89471, T89561, AA991577, AI953306, AI581162, AV756453, BF807499, W311173, H96053, BF845887, R86093, AA223316, AI445607, AI681541, BE247070, AW983792, AA809710, AW079193, AA297740, AW408732, AI766848, AW983787, AA713614, BF802863, F05557, AA343951, AA374508, N87773, AA533379, H96415, BE242396, AA094477, T82841, AA826687, BF982233, T90015, AA332523, AW403755, AW983796, F01825, AI863816, BE539235, AU149620, BE018132, BE081844, BF854670, BE246622, BG119708, BF854567, AW361136, AI540665, AA248405, AI699734, BF326144, AA095826, AW362131, BF351377, BE221592, BE151124, T25880, AI908696, AA090187, AW983748, AV660408, D28500, AK022665, AK001726,

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HMEDE24	273	837027	1 - 2822	15 - 2836	BE799690, BF971352, AL522117, BE741614, BE733821, BE253979, BE745589, BE747602, BE275209, BE740081, BE797620, BG176608, BE741557, BE745137, BE560375, BE746312, BE732858, BG025369, BG178395, BF791999, BG254540, BE791922, BG255293, BE397859, BE563260, BF568255, BE736997, BE869657, BE733788, BG179867, BE744696, BF568603, BG105384, BG164812, BE735863, BE877940, BE513940, BE730519, BG028893, BE545980, BG253222, BE902894, BG181129, BE383086, BF688245, BE271622, BG104781, BG119401, BE780014, BF569659, BE304608, BE514068, BE297300, BG032303, BE298208, BE514435, BE907329, AW854046, BE301884, AV697512, BG117108, BE279314, AV661771, BE251240, BE407499, BE258199, BE311769, AW732511, BE298556, BF037695, BE388413, AW732535, AW409655, BE397925, AV683853, AA452189, AW854101, BE279938, BG116638, AV683681, BE563147, BE388057, AW854252, BE311605, AV661878, BG122628, AW995622, AW361325, AV683485, AA503078, AA573738, AV702970, AA582834, AW853978, BE788746, BF037900, AW965408, AV685743, BE075197, BF203617, BE745948, BF854007, BE378390, AW068660, BE867357, AW068659, AA206520, BE271811, AW854032, W73087, BE908750, BE514234, AW965028, BF663829, BE560624, AA147831, BE269587, BE551372, BE388856, BE504255, AW368613, AA098841, BE696091, BF304862, BF313245, AW205582, AA083178, AA507028, BE296877, BE019783, W31114, BE877527, BF316131, AI140368, BE254196, AA129205, BF988424, BE873091, AV723475, AV694405, AA131227, BF982711, BF875737, W67728, AW361340, AA608672, AW379832, BF247344, BF316864, BF211638, W58606, BE075179, BF032794, BE261375, AW574704, AA102507, AV701713, AI085375, BE387881, W67729, AI026933, AA846817, W72755, AA101137, BE514707, BG107229, AA082572, BE868602, BF206336, BE696064, AW753393, AA522536, W73192, AI813745, AA928422, W60774, AI126196, AA587677, BE313256, BE208156, AI951015, BE263252, BE547308, AA599278, AI754718, AI857952, BF569994, AI687726, BF683745, AI199748, AA307277, BE931179, AW403826, AA131954, AA081036, BE019776, N20199, AW582700, AI817097, BE383366, BE671712, AW469365, AI129011, W48714, BF243582, AW137417, AA836853, AW377041, AA187427, BE252430, AA131867, W69472, AA181263, N77269,

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HMEDI90	274	840077	1 - 2262	15 - 2276	BF951698, AW956936, H29379, T66089, AA057405, AW134660, AA057093, AA917450, AL133995, AI299437, AI002692, H18042, R19493, T09261, F11783, F11794, T65008, T09262, R43839, N78357, H29290, AL035633, AF007836, AF199333, AF263308, AF263309, AF263310, AF263307, AF263306, and AF263305.
HMELM75	275	587307	1 - 1593	15 - 1607	AL522460, AL523068, BF981082, BE898798, BG025506, BE547571, BE881841, BG169846, BF691263, BE546875, AA134589, BE894564, BE301261, BE886590, AU146947, BE901657, BF978116, BE293822, BF155175, AW386322, AW968467, BF155178, BE902623, BF569007, BE304930, AL045680, AW976697, AW976703, BG109486, AW673556, BF895166, AA459479, AA223724, AA565953, BF155164, AA744555, AA215565, AU151798, AU153463, W68758, W68453, AA004739, AU150669, BE815558, AW193840, AU150567, BF333283, AA455698, AU149081, BF155166, AA004688, BG117385, AU148609, AW976701, AI086227, AU153901, AI458782,

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HMI AK10	276	562774	1 - 1050	15 - 1064	
HMI BF07	277	603528	1 - 1724	15 - 1738	
HMI C180	278	827318	1 - 1758	15 - 1772	AW206437, AI681626, AW590679, AW964447, BG153402, AI457162, AA773037, R53264, R56435, N51755, BF445824, R52470, BF223487, R13042, R40426, R52471, R15858, AI277346, T90387, R35946, T10284, AA194178, R53265, AI267524, T31140, R18993, AA318910, T83131, H05600, T10285, AA194177, R44879, R56436, Z45173, Z41270, Z45583, T31222, H12961, AA679784, and AC008790.
HMI C65	279	847403	1 - 2034	15 - 2048	AI760949, BF110122, AW304337, AV752105, AV752431, AV722241, AV753399, AV752788, BF038550, AI674641, AI631191, BF341595, AW954871, AW015922, AI637587, AA708886, AI279026, BE882675, AI860879, BG149555, AW958241, BE780764, AW151016, AW403088, AI124703, BE268585, BF108453, R93646, BE267741, AA158680, AA017518, BG028865, W25896, BG169140, BE348764, H08471, BE397221, AA598532, AI590038, AA158679, W49488, R94499, AA312333, W46240, AL046409, AA314321, AL036382, AI284640, AI679782, AW276842, AI334443, AF330238, AI431303, AW193265, AW303196, AW274349, AW473163, AI281881, AW029038, AA378475, AI350211, AW301350, BF475381, AI613280, AV710066, BF677892, AI345654, AI270117, AL041690, AW419262, AV734666, AL138455, AV760937, AI633390, AW276827, AW410400, AV763354, BE350475, AW963497, AW513362, AV728928, AW438643, BF939954, BF887977, AV762139, BF940837, BF854876, AI619997, AW974109, BF684828, AI963720, AW162049, AI688846, AI929531, AI053672, AL044940, AI471481, AW969629, AI341664, AV764241, AI375710, AA347073, AW302013, AW576391, AA526787, AW193432, AI962050, AA720702, AV719316, BF724767, AW575742, AI625244,

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HMJAK70	280	610099	1 - 785	15 - 799	
HMSBE04	281	709672	1 - 1382	15 - 1396	AW996615, and AK026622.
HMSCL38	282	801919	1 - 2931	15 - 2945	AW517950, BF754163, AA503296, AV709806, AI334107, AA287363, AW023111, AA704101, AI809776, AI609972, AI380617, AV757289, AI733856, AA559166, AI066646, BE968744, AA169245, AA683279, AW327624, BF589824, AW769151, AA602906, AA659232, AI755202, AW341978, AA297666, AI978654, AA419403, AA180775, AW274078, AI801505, AA503019, AW963542, AI801482, AI344948, AC007637, AC006946, AL133344, AC002996, AL031984, AC005954, AC012384, AL031311, AC020908, AC011473, AC004963, AC015550, AC002432, AL137162, AP001712, AP000501, AC004973, AL136418, Z98036, AC020904, AC005940, AC005231, AC008738, AC007172, AC010618, AP001718, AL049840, AC002045, AC008623, Z97056, AL450226, AC020552, AC002394, AC003101, AC016027, AC004815, AL137039, AL445705, AC005527, Z83822, AC004106, AC016830, AC006530, AL391833.

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HMSCR69	283	843059	1 - 1653	15 - 1667

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HMSHC86	284	840402	1 - 1710	15 - 1724	AW188427, BF826830, AA577824, AA584482, AW328050, BF244176, AW976010, AA713829, AI457389, AI679002, AL048969, AU147352, AV762783, BG118507, AW576384, AW069819, AV696428, AI038990, AV684596, AV691908, AI354847, BF828714, AV652452, BE908602, AA486896, BF836337, AA284247, AU155048, AL044339, AV700498, AW079809, BE067011, AA613954, AI889779, AW968205, AU140392, AA534064, AA524604, BE796439, AA640277, AW504011, BG260565, AL040521, BG034591, AL119123, BF307044, AA618412, AV737621, AV700988, W96277, BF913258, AV760723, BE066950, AW600804, N70044, BF923349, AU145083, AA311156, BE180592, AA575852, AA081138, AL042310, AW962035, AA020873, AV763305, AU117926, BF805601, AV700545, BE677330, BE616984, AI889426, AA493641, AL527073, BF892846, AU120942, AI400694, AV763135, AI078409, AL048626, AI216054, AI961264, AW089625, AI014358, AW069670, AI820959, AU130725, AV695357, AV763952, AW833112, AA069810, AA626632, AA708751,

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HMSHU20	285	847410	1 - 2235	15 - 2249	N37036, BG231510, AI333675, N27521, N40336, AI337376, BG058736, W86648, N46466, AA522544, AI279721, BF222867, AI341807, AI651516, AI245138, H42155, AI262580, W86523, AL354889, AC003108, AJ400877, AL031291, AC005335, AC020916, AL117382, AC002375, AC010494, AC007954, AL049759, AC010206, AC006211, and AC010422.
HMSHY25	286	886183	1 - 2191	15 - 2205	BF822591, and U63312.
HMTAB77	287	847411	1 - 3825	15 - 3839	AU133217, AL515424, AU117140, AU142384, BG033833, BE876803, AU139465, BG259851, BE743306, BG167796, AW473531, AU135959, BE875637, BG260336, BG107108, AW580231, BG179511, BE888606, BE887292, BG027450, BF671771, AU119885, AW238825, AI689392, BF575632, BF794737, BF791887, AU117158, AI969513, AU136366, AV752386, AA577695, BF347777, AU127278, AL046713, BG036892, BE539387, BE888461, BF035474, AU135160, BG107285, BG025131, AL039354, BF061987, BF812543, BG031453, BF212314, BE734936, BF981318, BG259074, AW957785, AW851018, BE552121, BF819996, AW379372, BE835355, AL039548, BG032762, BF693254, BE893099, BE439886, BF209896, BF207817, BE466166, AW965646, AU138546, AW814786, AU144064, BE888383, BE889498, BF688672, AI338724, BF514065, BF528934, AL040257, BE568710, BF790899, BF790348, BE969916, AU151881, BF381749, AI753682, BE537675, BF103706, BF038173, AA927334, BF240276, BF242051, BE835432, AI742904, N20178, AW966689, AW963156, BF382259, BE567450, AW369137, BF920929, BF750387, AA313265, AA196578, BF693176, BF744444, BE961188, BE280960, BF814166, AL048800, BF669614, BF695646, BF573281, AA584433, BF747979, AW205552, BF930968, BF210307, BE967604, AV758139, AW075512, BF229128, AL041181, BF931659, BG014272, BG032249, BF696371, BF242624, BE841199, BF904837, AW297463, BE537740, R70619,

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HMUAEE26	288	747403	1 - 1986	15 - 2000	<p>AL523203, AL515749, BE614404, AL515748, BF688628, BE613791, BF976568, BF570015, BE909508, BE907377, BF038761, BG177795, AW405815, AL528809, AA622413, AI362259, AW083964, BF061057, AW813200, AL524973, AI636779, AI097057, AI091346, AA350763, AW003428, AI422009, AI272936, AA102665, AI248453, AA101283, BG178886, AI435624, AW601020, AW813261, BG056509, AW117686, R72555, AW813202, AL528808, AI811322, R73352, AA622414, BE247259, BE703295, AI400034, AA484496, AI356550, AA258572, AA989154, BF797135, R72878, AA350762, T16127, AI699249, AI433994, AI206909, AI968946, AW449847, AW403875, AA884151, AW087452, AA188566, BF350716, AW272969, AW797619, AA188728, BE246100, AW797628, AI432030, AW188539, AI452405, AW813203, AW150511, BF726894, BE621810, BG168441, BG025417, AI432644, BE910738, BG123011, AW968355, AI432653, AW827175, AI623302, BG107986, AI432666,</p>

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HMUAN45	289	833072	1 - 2695	15 - 2709	<p>BF975230, BG177292, BF683936, BF972280, AW452044, AW450817, AW571669, AW276243, AI223336, BF507478, AW953367, AI937821, AA354094, H45305,</p>

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HMVBC31	290	825598	1 - 2542	15 - 2556	AL513958, AL532289, AL513957, AU141081, BE740204, BG166399, BE904675, BE891108, BG256305, BE744952, BE905626, BE742828, BE899088, BE745625, AV653746, BE866918, BF982216, AW957312, AV723081, AI819405, BE281510, BE514995, BE856665, AI818085, AW612700, AW963890, BF038873, AW005883, BF111236, N31954, AI570554, AI814284, AI743921, AI373828, AW963892, BF001263, AI073849, AW978642, AA705064, BE858940, AI078328, AI831014, AW963886, AW081533, AW953584, AA150396, BE906561, W78108, AA934651, W79933, D53129, N92092, AI669184, W03272, AA594574, AA719546, AA688147, AI042436, H47299, AI304898, BG012798, R35487, AA724939, W46177, BG012794, AA661822, W46540, AA158922, AI968456, R44002, AW277188, AA352968, T75515, AW365085, BE278604, AI754560, BE817848, R94999, H60086, H59434, AI868335, N69447, F19605, AA156578, D54824, AA903411, AA449263, Z24956, AW857481, BE073224, BE466451, AW857479, AI468314, T33942, H47300, Z46090, T30256, R41822, F03578, Z40826, N36752, BG149926, R94915, AA993003, R32790, AA577458, AW594657, Z44501, AI383141, AA449397, D80727, AA365266, BF757856, AA040902, AA768178, AA768128, AI391494, AA814775, BE140388, BG035024, AI814155, AI940059, BF435821,

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HMVDU15	291	801969	1 - 1337	15 - 1351	AL530730, AL530729, AL521712, BE899070, BE872478, BE379526, BG032996, AW960009, BF664744, AI860687, BE292787, BG121896, AI206534, AV715410, BE884808, BE268493, BE390348, AI735559, AL521711, BE389024, AI961336, BE880469, BF109589, BF983842, AA857710, AW337576, BF349325, N63937, N98264, T64873, AA088188, AI621258, AW178770, AV709883, AA574108, AI161061, AI371216, AA890542, AA449743, AA644301, AA854216, BG181143, AW352106, H97517, BG163757, AV749527, AI183306, AA568826, AI146818, H58826, AV747702, BE090748, AI241201, AA758074, H77948, AW752020, AA385447, BF349324, AV737657, R96579, AA366110, W07461, AA088658, AW375503, AA858136, AA316398, AA506156, H73541, AA338678, AI185498, AI928315, AI206653, AW149255, AA371380, H98578, N81101, AA334618, H58773, BF734456, AI203776, AI928318, AA541271, AW771996, C01105, BE007689, BE063683, N28882, AA338679, AW937795, AL134524, AW178029, AL119324, AA405666, AW877209, AI193525, AI521136, AW846613, AA339340, W16871, AW979127, AL119457, AL119511, AW972292, AW969825, AW972845, AW858522, AW971404, AW861944, AW858525, AW858526, BE242131, AW975959, AW971732, AF132964, AF161492, AF157319, AK000146, AP001433, AP001730, AP000158, AP000014, AL030997, AC018647, AC026431, AC012152, AL033523, AL139109, AF128525, AL109919, AL355365, AC004932, AC024247, AL445143, AL031281, and AF195092.
HMWBL03	292	822861	1 - 2582	15 - 2596	AL532317, AW976696, BG258766, BE784103, BE781381, BG115099, BF215477, BG163228, BE868152, BG119548, BG118210, AW978736, BE547477, AI992158, BF103579, AW394038, BE537694, AW835469, BG256663, AW070824, BE614387, BF031478, AW157294, AI743202, AI193598, BF029929, BE538143, AW303817, BE464933, AA939106, AW835466, BE869327, AW835470, BE966420, AW394036, AI831483, AW163057, AI979181, AA306435, BE613678, AA749314, AI094155, AW157089, AW362974, BF240145, BF217794, AW731659, AI878985, AW362965, BF795374, AW956998,

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HMWJF53	293	758158	1 - 2274	15 - 2288	AL520010, AL521909, AL521910, AL520011, AL524545, BE300370, AV705059, BG248217, BE250720, BG031597, BE250726, BF315262, AA524095, AL047607, BE871170, BE871652, AW402124, BG168243, BF343529, BF038946, BG168526, BE394575, BE560712, AL047608, AW574683, BE295900, AW575182, BE543224, BF205183, BF569039, AI498950, AA779842, BG115998, BE301593, AI453393, BE018107, AI628521, AI884947, AW474397, AI814310, AW166122, AA566001, AW026116, AI948522, AA614479, BE018086, BE540280, BF663008, AA886908, AA777831, BG115717, BF114669, BE393994, AW182896, AI707682, AW770121, AI673011, AI206429, AI092365, AI460223, BF793598, BE672939, AA522788, BE294120, AI061456, AI223983, BE349928, BE787943, AI628305, AW674834, AW673969, BE300207, BE328440, AW628266, AW008044, AI002213, BE677129, N93597, AI634627, AW402526, AI285191, AI283397, BE301576, AI609714, BF876020, AI884999, AA970842, BE546816, W25474, AW149381, BF111468, BF569107, AW057693, BE512675, AW083509, AI810870, AA079217, F31081, AW166408, AI436188, BE676788, AA766757, BF238323, AW275173, AI632859, AI903523, AI634638, C03499, AL524544, F37056, AW403327, BF211595, AA995404, AV749582, AI144305, AW389810, F28876, BF750860, AI810289, AI828051, AI472210, AW250061, R80649, AW440840, Z40235, AW517160, Z44278, AW090368, AW375219, AW090349, AW772829, AI903570, H84736, AW117306, BE091381, BF927638, AA687750, AA737588, AA420664, AI950768, T30392, BF847712, AA804831, AA678498, AA831926, AW468591, BE300112, H85096, AA808761, BF750914, AI184352, BF752884, AA366790, BF154627, AI092997, T11839, R50472, BG222658, AW770421, AA908835,

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HNEAK81	294	722235	1 - 1210	15 - 1224	W03411, N67482, BF725178, AI288032, AL122015, AL355392, AC006450, AL158823, AP001712, AC005049, AC008403, AL121652, AL035587, and AC008543.
HNECL22	295	799541	1 - 2696	15 - 2710	AI114773, AV708528, AI174910, AI114822, AI065060, AI305115, AI207643, AV701391, AI114681, AV709313, BE221818, BE677761, AW953876, AI743950, AW953822, AI589902, AA886890, BG236178, BF591137, AW516553, AI027819, BE550036, BE675476, BF684928, AI193143, BF447812, BE551855, AW003234, BF115226, AI871594, BF589312, AW968116, AF074701, BF115270, BG149200, BE669558, AI636074, AI186791, AA453707, BE348795, AA459528, AI223053, AW293894, AI765135, AA465507, BF000591, AA837316, AI342451, AW043650, AI344323, AI015206, AA906314, AI675107, AI374588, AW629315, AI367638, AI285946, BE348663, AI126552, AA459297, AI082415, BG058812, AA827913, AI186011, AI493737, AA579658, AI439599, AI064752, AI580179, AI191379,

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HNECW49	296	639117	1 - 475	15 - 489	
HNEHDH88	297	815675	1 - 2059	15 - 2073	H90176, H90837, AI818453, AA251373, AW967651, AA583781, AI139123, and AC007688.
HNFAC50	298	815676	1 - 1428	15 - 1442	BF888349, AW071725, AA743534, BE783671, N57590, N57604, AW305107, AV750698, BG003734, D45491, AA485566, BF358205, AA504633, AW026010, AW025529, BE512979, AI885090, AI475932, BF108880, AW050607, AA886335, BF368455, BF109416, AA662803, AI375435,

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HNFGR08	299	825417	1 - 1422	15 - 1436	AC006369.
HNFHF34	300	722237	1 - 714	15 - 728	AI621215, AU130396, AU117962, AL536336, BE345203, AI564193, AI950251, BE505024, AV691847, AW271945, AU150350, AI560075, AU151943, AA603342, AI581089, AW338106, AA505767, AI561182, AA888065, AI625041, BG259991, AU139709, AI357213, AU151554, BF381062, BE707571, H29506, AA962704, BF850138, BF095205, AI911938, AI928495, AW630831, AA353956, BE539679, AA581961, BE697596, AV689379, AV692744, AV693249, AW957741, BF570808, BF034198, AI750915, AL530022, AA516054, BE698779, AI750267, BE932470, BE697644, AA211203, AV694821, AV696813, BE697638, BE004505, BF094204, BE697786, BE697633, BE697643, BG116851, BF096000, BF096003, AA104012, BF335705, AI493165, AI498683, BE172276, AI887429, AA249644, BF000235, BE173112, AI453000, AU152389, BF063673, AW362831, AA622090, BF381305, BF907535, BF907553, BF381312, BF888121, BF907547, BE896710, BE612958, BF877002, BF907621, AW603024, AI739109, BF907537, AA182641, Z42725, BF381330, BF907622, AA638984, BF381320, BF888124, AW608385, BE708178, BF907552, BE932758, BF907545, BF888140, BE746436, BG059191, AV736363, BF114930, D19877, AA486796, AI697765, AI300924, AI873826, BF888089, BE963081, AK001273, AF161553, AB020657, AK001824, AK001625, AK023020, AK023123, AK000931, AJ012449, AL078644, AB050414, and AL137640.
HNGAK51	301	603910	1 - 901	15 - 915	AV731286, AW085751, BE156019, BF826830, BE067011, AI732911, BG260565, AV763498, BF747038, AV759172, BF816106, AA493475, AW405593, BE300645, AI457389, AV691908, AV696428, AV684596, AV695357, AV760383, F08248, AV730391, BF673743, BE063437, AI832009, AA583394, AW150209, AA515728, AA984258, AW575171, AV738383, H07953, BE150580, AV762783, BF681619, AA176972, BE748332, AW303196, AL035703, AL133445, AC024561, AC012039, AC005844, AC006477, AC022493, AC007000, AC005803, AC007207, AC007097, AC068130, AL049650, AC006059, AC006334, AC008012, AC001231, AC009955, AL133409, AL133244, AL121989, AI110502, AL133463, AL022147, AC012150,

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HNGAM58	302	688114	1 - 1142	15 - 1156	AW023672, AL284640, AL138265,

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HNGDQ38	304	825389	1 - 1031	15 - 1045	
HNGDX18	305	114507 1	1 - 1411	15 - 1425	
HNGDY34	306	566863	1 - 988	15 - 1002	AC017028.
HNGEA34	307	815678	1 - 1089	15 - 1103	AP000531, AC003064, AC002471, AC005374, AL391119, AL132657, Z83839, AC008443, AL049849, AP001229, AP001214, D87003, AL133173, AC026273, AP000547, AL078472, AC002041, AF254983, AL163201, and AC013734.
HNGEQ75	308	535723	1 - 1015	15 - 1029	BE390722, BE562480, R19019, and AA322845.
HNGGA68	309	638116	1 - 571	15 - 585	AB052201, and AJ236595.
HNGGP65	310	597449	1 - 527	15 - 541	AA599021, AW962434, AW886162, AW886320, BF809390, AA295899, T56311, C14692, AW977540, BF129140, AW470037, AV703137, AV701499, AV706025, AA493852, R48980, AA586433, BF091721, R81455, AV729449, H59797, AI925812, H64884, H64858, AA402083, W04260, AU157798, AW971204, AU155628, AU146855, AU144100, AV721229, AW574958, AI357551, AA053215, AA349881, AA664770, BF737517, AA084950, AA599749, AU119271, AI625468, AU117081, AA435854, M77895, AA176605, BE064726, BE064798, AW962053, AA570416, AW513451, AA009595, BE174036, AW081503, AA304790, BF855806, AI590111, AA584489, H56721, BF680405, AI275631, AI270360, AW438916, AI884861, BE093831, AA326245, AA247731, AA295893, AA133001, AI049504, T60940, T52478, M77948, BF056317, AA019396, R68874, AW327597, AU156055, AA136223, AL134064, BG034302, BG010083, R59567, AW327555, AL043098, T51553, AI580979, AA558487, AI345157, AI348467, H41462, AL037574, AW937886, AA302952, AA100915, AL120008, AA569049, H12972, AA937686, BE243207, AI160582, AW057873, AW827433, N25042, BG251457, AV733843, AA484059, AA486726, AI821382, AV733836, AI820534, AU147553, AW975217, AV731285, BG030533, AI880168, AW103782, AA577852, AL533967, BE249857, BF439979, AU158322, AL133755, AW994475, BF857619, AI133235.

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HNGHZ69	311	899289	1 - 1181	15 - 1195	AC011239.
HNGIV64	312	561572	1 - 1033	15 - 1047	AA595803, AV653403, AI886084, AV684943, AV695480, AI363970, BF848469, AW380640, AV651029, AL049541, AC009475, AC020910, AC008556, AC004967, and AC073898.
HNGJB41	313	852178	1 - 1232	15 - 1246	BE256247, and AC004542.
HNGKT41	314	836061	1 - 1034	15 - 1048	AW862214, AW859811, and AW862215.
HNGMW45	315	838613	1 - 1516	15 - 1530	
HNGNK44	316	834949	1 - 1164	15 - 1178	T71076, T71014, BE767503, BE767495, BE767498, and BE767497.
HNGNO53	317	836063	1 - 811	15 - 825	R37935.
HNGPJ25	318	834942	1 - 839	15 - 853	
HNHEN82	319	836157	1 - 559	15 - 573	AC005378.
HNHFE71	320	834487	1 - 889	15 - 903	AV718844, AV720464, AV700229, AV743601, AV722801, AV701043, AV701431, AV719000, AV701017, AV737584, AV701248, AV701012, AV745724, AV745723, AV740535, AV701332, AV742667, AV718681, AV699447, AV745080, AV701118, AV741012, AV743654, AV701166, AV742720, AV718858, AV723927, AV744934, AV701163, AV701261, AV720731, AV742001, AV743008, AV738934, AV701154, AV720607, AV719568, AV745488, D51250, AV746385, AV699927, AV745392, AV724520, AV744773, D80043, AV744771, AV701121, D80253, AV745831, AV720220, D59787, AV746335, AV701335, AV701125, D80219, AV746162, AV745369, AV701149, AV701443, D80227, AV721784, D59275, AV701428, AV700622, AW973447, AL038531, AL037726, AL039629, AL039625, AL039648, AL038837, AL039074, AL039678, AL039108, AL039538, AL039564, AL039156,

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HNHGK22	321	597451	1 - 895	15 - 909	AC008269, and AC068312.
HNHHB10	322	634589	1 - 887	15 - 901	<p>BE744242, AI679782, AL138265, AW672999, AW970962, AW406447, AL135377, AL040921, AW088224, AA631507, AA601355, AL038705, AI284640, AV757425, AL046409, AI307201, AV763540, AW467347, AU140493, AL120008, AV704740, AI963720, AV763558, AL119691, AV701844, AV761403, AW148507,</p>

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HNHKS19	323	778392	1 - 776	15 - 790 AW237081, BF222713, AI954694, BF057788, AW590509, AW136373, AA833546, AW139260, D80045, AW949645, AW964468, AV718844, AW949642, D80212, AW966389, AW949656, AW949631, AW949643, AW949618, AV720211, AV744012, AW966531, AW975618, D81030, AW973334, AW966013, AV742048, D59619, D80210, D80240, AV744690, D80022, AW964488, AW966053, D59502, D80166, D80219, D58283, D59927, AW975621, C14331, AW949655, AW966029, D80043, AV723927, AV718440, AV720028, AW959628, AW965177, AW965163, AW978634, AW966534, AW973541, AV699550, AW960553, D80195, AW966041, D80391, AV719822, AW966054, AV718692, AW966050, AW958992, AV738340, AV719324, AV719783, D51423, AW949653, AV718800, AW978661, D51799, AW966065, D80253, AV720464, AV718770, AV718489, AV720203, AV719188, AW973307, D80227,

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HNTBT17	324	855957	1 - 1945	15 - 1959	BF056005, AW296049, BF110398, AW574922, AI341169, AL520164, AI762335, AI344316, AW300600, AW954715, AI911274, AI908461, AU145666, AA536011, AI887586, AW268454, AI969491, AI762343, AI453445, AA541678, N34832, AI630810, AW081919, AI089010, AI434411, BE675846, AU151140, AA931229, AV757081, AA017675, AI581265, AW292354, BE539663, AI708485, AI201561, BE676579, AI302716, AI374989, AW292353, AU154963, AI096423, AA016305, AI129905, AI559414, AI206489, AI952711, BE675094, AA308697, AI189103, AI191046, AW150124, AW952428, AA465166, AW440957, N21075, AA884647, AI951364, BF977987, N29695, AI560616, BF854148, H97515, AU157680, BE893679, AI267630, AI268448, AI610116, AA465284, AW591326, C01400, N72218, BE245266, N94093, AA452128, AA283016, BF976969, AI093808, AA479780, AA164702, BF913199, BE935488, BE935455, BE935498, H86027, AW189540, AI039630, T75570, BE935319, AU155964, BE935333, AI311523, BE935382, N69273, AI358340, AI339962, AI371430, AA761765, BF089909, AA828427, AA065247, BE771730, BE703130, BE703139, H04994, AA826520, AA848129, BE935415, AA676984, AV654373, AW575633, AI816301, AW157157, AW156950, BE771771, BE703132, BE935413, AW960643, AW405769, BE703134, AV653198, BE935514, BE935548, AI940773, AA731178, T71149, BE703140, BE935566, H16521, AI940770, BE771698, BE672736, AV657128, AA677166, T34629, AI382452, AW802699, AW188546, BE719596, AA773272, BG110884, BE771743, T87419, BF737250, H25301, AA313026, T87315, T75569, AI648625, AA934626, AA164701, T03514, AI277296, N27910, AA676997, BE139092, AI220716, BE152403, R58876, H85891, AI382960, BE708306, BE243551, H86937, AW277207, AW277157, AA453100, T81657, AA452261, AI351450, H16522, BE676830, BF439019, BF901628, AA328216, AA215673, T16993, BF854004, AI222064, AA152106, AW192595, AA744537,

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HNTMH79	325	801921	1 - 908	15 - 922	AL520064, AA522435, BG253524, AI583193, BF029884, AA425038, AI580066, AA602386, AW027266, AI201750, AA495955, AA535913, AI140976, AW512793, AI400417, AI769557, BG230609, AI131500, AI810252, AI674407, AA447953, AI076831, AI762755, AI686492, AW003027, BF476313, AI147015, AW027517, AW305023, AA653361, BF001486, AW513839, W87475, AW170527, W40356, AA459267, AA514642, AI276539, AI208079, AI292269, AI659802, AW292543, AI346823, AI767262, AA599024, AI027947, AA733190, AI400960, AA932457, AI367819, AI038298, AI149913, AV703226, AI350089, AA678680, AI620623, AI049656, AI804757, AA136872, AI524491, AA040672, AW007575, AI346300, BE855969, AI829046, AA040574, AI264070, H42039, AA040302, AI446012, N55213, N63821, AW590732, AA682598, AA678959, BF727423, BF796049, AI366834, AI798080, T70289, AA040378, AA600308, H78080, AA284920, BE043311, N94179, BF940613, AI863973, AA218872, AA282766, AI763360, AI440259, AI476005, AA873695, AI242375, R44736, R92174, BF939402, AI539401, AI371441, AI942253, H54410, AI083613, AI185558, AW591851, AI381228, AI423940, H42080, AA730984, R19200, AW592289, AA039867, H89831, AA917326, H90682, H78081, H85966, AA127244, AI699762, AA019325, AI241891, AA019123, N77272, AI568308, AI092139, AA987371, H54496, AA019475, AA342636, BE869699, BE535300, AA770540, AI434194, R73243, AI905682, BE093371, BE390360, AI638770, AI656046, H25903, BF328267, AA911247, R29655, BF831374, AA136802, AA778262, AL520065, AA448885, AA019122, AA883718, AI016488, AA013169, BE267183, AI133070, BF831381, AA281036, AA126527, W87570, AI110282, and AF118070.
HOABP31	326	835084	1 - 913	15 - 927	AV709252, AV715745, AW575577, AW574637, AW576115, AV712964, AI079440, AI937843, AW157051, AV717492, AI569079, AW129500, AW162675,

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HOABP31	327	868327	1 - 915	15 - 929

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HOACG07	328	792928	1 - 1284	15 - 1298 AL529455, AL527447, AL519665, AL530298, AL526667, AL520518, BF312602, AL527270, AL523402, AL525526, AL525575, AL532418, BE795641, BF689773, BF690313, AL532417, BE793892, AL523401, BE798089, AW961032, BF978883, BE794106, BG117486, AL517000, AW375519, AW375527, AI761506, BF836264, BF237461, AA738047, AU123303, AI744657, AI573291, AA058761, BE259536, AI765107, BE502073, BF087384, BE888732, BE779165, BE394031, AW246799, AA700013, AW631125, BE786533, AA759011, BF315852, BE515115,

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HODAG07	329	655356	1 - 886	15 - 900	AW150987, AW073096, AI433008, AW840663, BF961983, AI064787, BE061322, BF310123, BF889059, AW079659, AW840960, AI887241, BE902562, BE901529, BF337291, AW833044, BF850931, AW879550, AW995665, AV703956, AV655096, AA688217, BG105511, BF918950, R46841, AL043289, BF854113, AL042753, AI745359, AW081103, AI368745, AW935121, BF676981, BG249643, AA047715, AV759518, BF996665, BF925370, AA853473, AA618452, R56583, AV738534, AV652027, AA702729, BF724699, AI821259, BE277210, AL040038, AI669000, AW880044, AI097143, AA738097, AI805349, BE070818, BF868994, AI138455, AA601376, BE156651, AW832960, BE070711, AI609192, BF681373, AW083846, BF857083, BG107514, BF342223, BF679187, BF347791, AW861564, AL039478, AI334443, BF725761, AI358408, AI865324, AV725208, AA634071, BF764474, BF888322, AI540587, AW854458, BE276480, BE378571, BF764476, BF826444, AW963750, BF347740, AL040072, BF678165, AA129746, AI732975, AI561147, AV758600, AI053520, AI111171, AI345797, AW833981, AA016226, AL043052, BE150580, AA805966, AW812695, AI016729, BF343686, BF726425, AL038607, AV726088, N52358, AI133297, AV725012, AV729389, AA019257, AW301995, AL134242, T27702, AV761362, AF075343, BE154678, AV726091, BE889486, AW815297, AW900503, AA581263, AC004061, Z83821, AL020991, AI392084, AB041731, AL109919, AL133320, AB042031, AP002529, AC005553, AL031904,

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HODBB70	330	520196	1 - 590	15 - 604	AW079904, AW207285, H18498, R37566, BF852425, BF102683, and AC006322.
HODBV05	331	825283	1 - 1105	15 - 1119	AA812678, AV751994, R44969, T28237, AW880897, BE083400, A1203435, AC006344, AR085564, X65187, AC020717, X65188, and AJ276307.
HODCZ32	332	836069	1 - 913	15 - 927	BF530072, A1554758, AW819125, BF445242,

					AA478355, AI049508, AA643786, AF064861, AL163279, AL121601, U96629, AL356379, Z93930, AL022323, AC007383, AC005512, AC005522, AL132639, AC010412, AC007546, AL035420, AC018897, AC007021, U91325, AL022336, AL035495, Z94801, AF196969, AP000359, AB004907, AL096701, AL161731, AC004797, AP001727, AC007731, AC008569, AC005803, Z83856, AC005500, AC022148, AF217403, AF001549, AC007842, AF200923, AL031685, AC008736, AC011495, AC018758, AC004033, AC006946, AF200465, AC009509, AC009247, AL132765, AC010422, AC002430, AC008806, AC004980, AC006028, AP001710, AC007384, AL157791, AC007172, AL024498, AC005257, AP000497, AL354864, U52111, Z98200, AC003957, AC011551, AC005071, AC011510, AC005081, AL078590, AC004656, AC021999, AP000008, AL137818, AC004531, AL022396, AC020917, AC020754, AC010326, AL355094, AL031284, AC012309, AL035458, AC006014, AC007192, AC073184, Z98884, AF109907, AC011465, AP000704, AC010271, AL354942, AL023775, AC005411, AP000255, AC002395, AC007345, AC005971, AL034429, AC009134, AC008395, AF217490, AP001753, AL138976, AL133174, AL035587, AC004929, U07562, AC021752, AP000130, AP000208, AC006080, AC004890, AC005015, AC018751, AL096700, AC009516, AL035683, AC005907, AL022322, L44140, AC004988, M19364, AL161670, AC007114, AC006942, Z98743, AC005280, AC000134, AC002299, AC008733, AC016816, AL355392, AC004019, Z85987, AC005005, AC007620, AL157838, AL138787, AD001527, AF038458, AC005520, AC007405, AL049643, AC004804, AF181896, AP000501, AC012076, AC005736, Z99128, AL023284, AC006064, AC007993, AC003070, AC004966, AP000135, AC004991, AL031255, AL139286, Z95116, AL109797, AC005578, AC004876, AC008279, AL160231, AC006121, AC005013, Z98036, AC007225, AC010618, AC008774, AC005011, AC023880, AL117348, Z81364, AL138878, AC008403, AL137796, AC007850, AC004089, AL158040, Z93015, AL035086, AC005231, AC024561, AL354977, AL035400, AC011497, AL021391, AC007057, AL049872, AC004547, AP001609, AL121891, AL136303, AP000031, AL450226, AC009086, AC007371, AP001711, AL021397, AC027644, AC011452, AC006974, AP000514, AP001717, AL021528, AC005829, Z82215, AL133448, AL137039, AL049694, and AL158824.
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HOEBK60	333	789396	1 - 2204	15 - 2218	AL515934, AL520231, BE618778, BE618245, BE782129, BF056891, BG121474, BG250670, BG168174, BE905489, AI633878, BE042542, AL518067, AW515316, AW088411, BE536123, BE218306, BE644805, AW207435, BF087512, BF570490, AI818209, AI752319, AW962355, AL536159, AI669659, AA902264, AW105148, AW410334, AW083012, BE515266, BE465947, AL518068, AI927938, BG260989, AI420205, BE465917, AA043792, AI743602, AI283114, D81907, AL515935, BE546476, AA186486, AI417561, AU131122, N66098, AA573278, AA431514, AI752320, H14424, R59054, AI819645, AI631297, W00707, AI434568, BE221654, BF104164, AA973972, R59803, AA350599, H11851, AA724174, R17805, BF924661, H19130, AI638738, AI440413, N98699, AI702887, AA431188, AA280575, BF838288, R61472, AA653570, R77568, AI753861, C00128, BF998349, H29435, BF377857, AA348799, R18745, AI962149, AA809488, D78858, AA305344, AA360504, BF837084, BF352331, AI440138, AI135399, AA300827, AA329088, H83314, AW089455, D62361, AW811797, BE889780, BE561984, AI925346, BF374906, D78824, AW796219, AW811796, BG027920, N55732, BG036911, AW796258, AW410333, N90043, Z25249, R61473, BE899608, AA043666, AA174177, AA350598, BF089446, AW514435, AA095955, BF089445, BE736007, AA092014, AA096434, AW275782, AW275777, AA427677, AI624981, AI749472, AA704575, BE171096, AL044986, AW089135, W19853, BE940131, BF514239, BE163882, BE163878, BF243117, AK023143, and AK001928.
HOFAA78	334	836646	1 - 1342	15 - 1356	BE253045, BF980950, AK000091, and AC007191.
HOFNB74	335	762821	1 - 1022	15 - 1036	AL528391, AV705461, BE742621, AW957840, AW957916, AA313780, AA469996, BF699406, BE897665, AA206557, N31702, AA459482, BE790325, BE899574, AW971024, AA460494, AI052029, AI761638, H55824, AA628498, AA412069, AI027538, AW514954, AI884599, AI419408, AW469200, AI992152, AA024623, AA581877, R62921, AI142045, AI275439, AI066572, AI939991, AA328484, AW002064, AA025955, W73635, W52125, AA492218, AL513597, AL514791, AL514935, AV723772, AV682289, AA954252, AW080838, AW166645, AV681668, AI906328, AI149592, AV682266, AL514087, AI907070, AI815383, AI220734, AV723204, BG108147, AL515047, AL514473, AL119049, AI624859, AV758217, AV756703, AV681857, AL515373, AV758592, AV758738, AL514627, AV682441, BE619513, AV723062, AV693157, AV733397,

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HOFNU55	336	897611	1 - 1351	15 - 1365	AA489724, BF317222, AA454964, BG151247, BF968493, AW071349, AI349772, AA902194, AA447844, AI702406, BG168696, AL135661, BF812933, BF343172, BE047863, BF085952, AW827203, AL046849, BE048071, AL036146, AV681949, BF726421, BG036846, AW274192, AL121270, AI873731, AI348897, AV681668, BE887488, AW162071, AL047042, AI349645, BE781369, AI538716, AV655645, BG260037, AL514919, BF971016, AW238730, AW117882, BF885675, BF792469, BG058208, BE964812, AL514691, AL513911, BF883916, BG114104, AI568870, AL047763, AA100215, AI758437, AW301409, AI568855, BF724691, AL036396, AI340582, AI349933, BG250190, AI868831, AI521012, AW071417, AI597918, AW089572, AI433976, BF795712, AW827249, BG112879, AV727776, AW195957, AI540832, AI613017, BF970093, AI439087, AI250293, BF792099, AL120736, AI678302, AL036802, AI499463, AI249257, BG031815, AW103371, BE964700, AI436456, AI281779, AI857296, BE047952, AI349004, AI702433, AI440426, AL040243, AI433157, BG179993, AI345735, BE048026, AI699857, AI862142, AL513553, AI633419, AI513907, AI498579, AI866002, AI499131, AL513837, BG259801, AI597750, AL044207, AV711509, BE963035, AI567351, BE968552, AW087445, AI500077, BF882343, AL045500, BG058398,

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H0GBF01	337	772573	1 - 1464	15 - 1478	AA551134, AW971745, AW877209, Z99396, AL119324, AW861944, AL119457, AW804686, AW392670, BE695785, AL119399, AL119355, AW604723, AL119341, AL134902, AW858526, AL119363, AW858525, AL119443, AL119319, U46349, AI142131, AW577135, AW372827, BE705903, AL119497, BE705906, AL119483, AL042544, AW384394, AW861889, U46341, AL119444, AW858455, AW363220, BF868697, BF868687, U46351, AL119484, AL119391, U46346, U46350, U46347, AL119464, AW604726, AL119439, BF868684, BE705905, AL119522, AL119396, AL119335, AL042984, AL037205, AL119401, AL134536, AL134538, AI142134, AL119496, AW861954, AL119418, BE705904, AI142132, AL134525, AL042433, U46345, AL043033, AL042614, AL043029, AL042450, AL043011, AL043019,

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HORBS82	338	638293	1 - 1111	15 - 1125	AA716165, AW014086, AI675797, AI915560, AI093476, AI619556, AA346257, BG170965, AI674463, AI656676, AW962578, H26720, F32296, F33070, F24055, F23333, F32966, AI370391, AI446003, AI560806, AA857847, AW130863, AI282355, AI241901, AI889818, AI611743, AW243878, AI619502, AI630928, AI953765, AW083804, AA504514, AW081179, AA814782, BE967273, AI554821, AI620056, AI285735, AW262983, AI355849, AI245332, AI018686, AI635464, AW183620, AW020095, AI036187, BE966547, BG105445, AI036509, AI680498, BF970652, AW149869, AI433611, BG181012, BF914091, AI271796, BE621256, AV702932, BE962857, AI824557, AA555145, AA449768, AL513697, AW089009, AI368579, AW020592, AW130403, AL514823, AW022494, AW020288, BE785348, AL513817, BG108350, AW073996, AA937558, AV724929, AI863321, AI684127, AW075648, AW082997, AL514035, AI811911, AW168485, AV705811, AW083825, AI972170, AI537045, BE964576, AV734654, AI815239, BE964792, AI434833, AI301507, AI687168, AI289791, AL513693, AA808175, AL513911, BF763498, AI918634, BE965014, AI623736, BE965891, AI952249, AI862139, AW081343, AI923768, AI513809, AI050666, AI367210, AW170725, AA835947, AW025412, AW082040, AW025279, AW079045, AL513789, AI432532, AI874189, AI289608, AI536685, AI680113, BE965031, AW189268, AW827211, AW082623, BE965053, AI560023, AI439762, AW029611, AI978720, H89138, AI801592, BF339322, AA603709, AV659322, AI925404, AI627714, AW008090, BE735370, AW075519, AI866691, AI559737, AI921753, AI718161, AI582932, AI872545, AI446809, AA904121, AI251434, AI784214, AL514357, AW193467, BF338782, AA983883, AA480074, AW075482, AL514473, BG179586, AL514557, AI804983, AI697045, AL514691, AI924971, BF338027, BE299813, AW085373, AA514684, AL513553, BE966571, BE963909, BE964150, AI915207, BG178911, AI469516, AW151835, BF968679, AI475394, AI568114, AL514627, AW151850, AI457369, AI824648, BF038804, BE965481, AI375730, AW085667, AW192245, AA493923, AW059713, BF025686, BE878953, AI640379, AI498579, AI888665, AI038778, AW162189, AL515235, AI744243, AI691088, AW073868, BE964967, AI933940, BE613727, BE875442, AL514929,

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HORBV76	339	839270	1 - 1143	15 - 1157	BF982706, AI571494, AI888858, AA703510, AA128464, AI091675, AA129916, AW613716, AA569492, BE937241, AW301397, AW301415, AI637838, BF056511, AW082378, D12398, AA325607, BE879070, W93799, BF091683, BE170912, AW051087, AW089279, AW935039, AA910432, AB017165, AC005971, D88364, and AJ009616.
HOSDO75	340	862049	1 - 888	15 - 902	AI375670, AI990134, AA732220, AI494146, AA172039, BE777959, AA258154, AI394315, BF086933, AA172291, BE093382, AA456756, N57268, BF086946, AU138426, AU139896, BE093384, AA113041, AA258916, and AK002100.
HOSEC25	341	688055	1 - 1538	15 - 1552	AV703315, AA205852, AA205844, AL037839, AW077072, AI565552, AW959962, AA973910, AW959960, AA348808, AI354705, AA205854, BE162539, AI651069, AV713064, BF437354, AI767622, AW052035, AA101964, AA026741, AW069227, AI634187, AW269504, AI457313, AW674631, AA099631, AA232994, AA243696, AW195341, AW341978, AI823308, AI733856, AW188986, AI053784, BF941940, AI049630, BF746395, AW805547, AI753365, AI860535, AU144540, AW081303, AV655282, AA808741, AW804959, AA584484, H60935, AW468009, AA169245, AW167154, BF681619, AI798493, AI587583, R44593, AV754716, AW972919, BF991881, AI598003, AI587565, BF991882, AA599080, BG223550, AL359846, AF275948, AC010087, L78810, AC005081, AC005231, AC010422, AC005052, AC008569, AC005625, AC008403, AC018663, AC011491, AL121658, U95742, AJ400877, AL024498, AC005399, AC007345, AL117381, AC016025, AC006211, AC004840, AC008068, AL050318, AC005736, AC003982, AC004858, AL033529, AC004448, AL096791, AC011895, AL138976, Z93023, AL121753, AC002395,

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HOSE181	342	562778	1 - 883	15 - 897 AA418350, and AA418237.

HOSEJ94	343	795132	1 - 1753	15 - 1767	<p>AL534250, BF794731, BF981787, AV717490, BF969851, BG121979, AA778721, BG110730, BF984085, BG110467, AW955122, BE622018, AI309326, BG249314, AW577402, BF667856, BF030670, BE973851, BE223046, AI923088, BF693523, AW157189, BF977423, BG248874, AV719596, BF672688, BF692519, BE072714, BF029550, BF208546, BF672920, BF665810, AW999143, BF382326, BE567723, BE622665, AW009559, N21676, BF695168, AW277241, BF130275, BF435550, BF029462, AI015567, BF700283, BF671831, AA056157, AV722823, BE936913, AA142926, BF668174, AA935517, BF697474, BF240047, BF669889, BF698200, BF102617, AI340068, BF699736, N71214, BF672305, AA046446, AI890415, BE568028, BF508414, AI760248, BG231598, BF698298, AW956756, AW629335, AI421490, AI423473, AA576688, BF445396, AA405935, AI342399, AA946956, BF103939, BF570584, BE865772, AA826534, AA143149, AV708510, AA313266, AI803454, AW403205, AA125818, BF693047, AA594414, AA233629, N22011, BF574369, AI862039, AW749919, AA315935, AW148924, BF212941, AI245757, AI953431, AW374039, N80237, BF243837, BF570931, AA488928, AW304989, W33046, AA782164, H89121, T78059, BE564522, AI344475, AA074821, BE834475, AI148049, AI707964, AW163161, BF208070, BE566545, AA864308, AA702036, AA058701, AA034997, BE565093, AW057651, AV682327, AA045662, AA084570, AA172038, AA743021, AW438849, AI708566, AA135017, AA045663, C05053, AW268698, AW078896, AA312059, AV683078, AA894905, AA047840, AA586355, AV687492, AA947891, AV652365, AW820932, N31289, AA724345, AA878972, AA053980, BF954676, AI024387, N31083, AV658627, BF904383, AI631228, W38328, BF126440, AL048109, BF909276, BE070037, F13274, T59457, BE379913, AA831417, AA172290, AI905071, AA125949, H06542, AA018173, H06484, AW337421, T06616, AW571396, AA837059, T77300, AW295581, Z39935, AA759329, R39702, F10872, AA057237, T36230, BF208394, H89228, AA373169, BE763894, AA598442, AA233777, AA056096, D53439, AA035459, T19033, AA484066, R96192, BE708221, AV693255, AA693386, AL048108, AW392317, AI090106, AA732389, AW150491, Z43869, AI270737, T18978, R38185, W04596, BE172519, Z37004, BF512309, AA383381, AW969664, AA501472, AA483236, AF126156, AA749100, BE163666, H41069, BE168419, AA079574, AI200780, AR044461, AF061739,</p>
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HOUCA21	344	655359	1 - 1115	15 - 1129	AU128438, BE730087, BE384458, BF508985, BF686525, BF207368, BF206241, BE737970, AA018892, BE737581, AL353967, BF317209, AA306257, BE565270, AW581996, BE739366, AI206455, BE622117, AA725014, BE738570, BF964437, AA489537, BE745782, AW848363, BF677217, AW812945, BF438201, BG036665, BG259790, AI291274, BF814725, AI473475, N92703, AA548356, AV762033, AW872461, AI247199, AW276827, BE156019, BG151598, AA347034, AA362511, AV738285, AA347368, AI653636, BE045001, AV760760, AV757369, AA643455, AW816252, BE065673, AA483771, AI559705, AA552843, BF902055, AI751216, AA496343, AI270002, AI270248, AA376519, AI038705, AW731867, BF217110, BF871137, AW196064, AA552856, AA405453, AI537955, BG260454, AA954924, BF692524, AW002350, BG178784, BE788081, AA747594, BF347740, AI783898, AA714453, AI859438, N27763, F17891, AI568678, AV754623, BF347791, N68051, AA568778, AA502720, AI801591, AW731802, AL036037, AW503014, AV713127, AV735305, AA309257, AI446638, AW474299, AA643974, AW973325, AW103981, AI298710, AA219225, AA601356, AI871722, AI499054, AV690256, AA309841, AL119691, AW873530, AA669840, AI624631, BG236251, AA640772, AA581903, AA847069, AV740801, AI589461, AW970877, AW302013, BF977376, AA026679, AW168520, AW591487, AI634384, C06119, AV729833, AA340747, AV757341, BG231767, AV704536, AW973324, N94233, BF677684, AA715255, BF346912, BE973738, AA715267, AW890364, BF347038, AI625647, AA788901, AA446544, BE139146, D51681, AI583594, AA580808, AA587604, AI580652, AI801600, AW504623, AI436677, BF836052, BF838326, AA244022, AA828749, AI559251, BF841212, AI243584, AI832909, AI262909, BF880649, AW816518, AI472222, AW960545, AA812684, BE154678, AA730477, BF793766, BG003382, BE973754, AW866226, AI798473, AV760777, BE206472, AI133164, BE164494, BE378740, AW169537, AI933534, F03525, AA070345, AI690698, R86151, AV711275, AW519279, AV732792, AA832145, R78962, AI301713, AV739452, BG115611, AW969866, AA126035, AW067900, AA856954, AA357937, AA126051, AI692808, AI038072, AI064864, BF831353, AP000527, AL163201, AK022914, AL035690, AL049875, AP000347, AL109653, AC010202, AL121983, AL020989, AF121898, D87022,

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HOUDE92	345	580866	1 - 1270	15 - 1284	BE736091, BF237553, BE781264, BF686547, BE313480, BE872070, BF313936, AI138711, AI348027, BE502126, BE258631, AA524244, AW873570, AI982983, AI367855, AI052179, N90758, AA325647, AW419076, AW873111, AW008195, AI304671, AI367495, AW964887, AI609692, AA019213, AI279349, AI581275, AI224904, AI141287, H14110, H41440, AI017367, H29060, H29163, AA482386, AI471043, AI742262, AI262559, H52568, AA872715, R60248, H06091, AI041676, BE856821, H86160, H86771, AI241156, AA872384, R60761, AW131262, T31006, H56455, H95225, AA535480, AA678522, AA953998, R93546, R47352, BF968234, C04826, N39943, AA779062, T31180, H69216, AA017105, AA738315, AA019233, C04344, C05015, H17526, R99865, H84704, AW025505, AA057567, N72695, H86419, W02476, N27200, AA001522, AW194286, AI264419, AI220672, AI290418, T30927, AI620442, AA985424, R49316, H86772, AA725465, R91429, R93547, AA017106, AI074855, H95701, H69217, H95226, AW188581, AI678424, AA057566, AA326095, AA976949, H56456, W57713, AW166317, Z42112, AA775239, AI864069, AA918031, H85105, AA015626, AA977988, AA429622, R99866, H14085, AI000910, AI431360, Z38375, W57838, AA015625, R57558, AI949351, AI262422, AC005865, AF217967, and AC005912.
HOUDR07	346	745404	1 - 1897	15 - 1911	AL531561, AI079861, BF337256, AW511212, AW954426, AW956861, AL531560, BF341448, BF337379, BF342408, BF344524, BF526160, BG056440, BG056468, AW471385, BF341471, BF593787, AI740970, N57259, AW190973, AI341252, AI333509, AV651905, AA587400, AW001167, AI139584, AI129368, AI927728, BG222503, AI363021, AI189687, AW293408, AI086492, AI302609, AI129882, AA122073, W68628, AA651623, AI031638, AW572561, AA122061, AI356953, AI190062, T33835, BF344843, N24851, AI343741, AI432962, AI969573, BF871612, AI312943, N98757, BF023606, AA464188, N29841, BE045761, F21170, AI085701, AA464781, AA122027, AW337187, AI086926, T53429, AA122062, T08223, R42632, BF990045, N31785, AA861475, N45025, T54298, AA610844, W30988, AI081993, AI597787, AW316593, AA536154, C02075, BF813280, AW016587, BG057294, BG170248, T53705, AL526840, T53428, AA321471, H56472, AI769583, AA877474, R17396, W68627, AI826946, M62290, H87693, AL526878, AA377510,

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HOUED72	347	858547	1 - 819	15 - 833	BF982418, BF205031, BF971012, BF206215, BG251849, BE900647, BF528134, BF663920, BF792504, BG171307, AU118187, AU124857, AU118153, AU117371, AU124949, BF311419, AU143727, BF207330, BF528684, AU122444, BF311484, AV704961, BE791986, BE559827, BF309689, BE280780, AV704761, BF203645, BE879383, BG248416, BF529090, BG107463, AI051987, BE876092, BG108571, BE730820, BG163580, BF795342, BG177104, BG031645, BF341025, BG179838, BE903830, AV725525, BG180359, BE563618, BG259600, BE888912, BG165870, BF700158, BE906808, AV705311, AV718262, BE743767, BG121500, AI798626, AV715794, BF796464, AV703244, BE298438, BF338915, BE729212, AV702247, BE298524, AW327407, BE790406, BF792368, AW157049, AI299940, BF033595, BE902615, BF685574, BG033946, BE300012, BE543017, BE875589, BF313058, BF697519, AI041532, AA643176, BE896191, BE889915, BE856649, AI246623, BE299131, AI042335, AI708149, BE790536, BG107085, BE732689, BG024676, BF971176, AI741830, BE895202, BE780616, BF305723, BG025903, BE736289, BE888785, BF969173, BF311444, BE788428, BG026797, BG254320, BF795068, BE620184, AV705685, BE785908, AV711282, BF941019, BF205200, BF347865, BG180298, BE788778, BE909392, BF793353, BE787322, AA643318, BE294738, BE612519, BE879530, AA554741, AV656214, BE271961, BF307661, AV706767, BE546852, AI561263, BE270514, AV762066, BE547024, BG110506, BF686115, AI880404, AI718647, BE275106, AV722907, AV683350, BF204796, BE296480, BE729987, AA826471, BE564615, BG170352, BG255960, BG168274, BE789019, AV705624, BF125107, AI188315, AV703818, AI191304, BG122399, BE907311, BG107569, BE790067, BE778114, BF304895, BE788056, AV759974, BF309928, BE889260, BE397902, BE893293, BE742428, BE898066, AV761583, BE537639, BE620117, BF316234, BF762070, AV703285, BE385455, BE880991, BF676788, BF036680, AI742794, BE294280, AA860304, BE543403, BF182636, AI048364, BE891255, AW149700, BE620549, BF797452, BE548849, BE295811, BE269472, AV710890, BE538184, AV763327, AI097080, BG107878, AI830914, BF317250, BE622946, BE263549, AI718611, AI336210, BE906043, AV761680, BE738212, BE617978, BE259790, AV704063, BG026308, AA643853, AW149711, AV703841, BE777772, BF316570, AV760687, BE873688,

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HOUFS04	348	771564	1 - 2913	15 - 2927 AL537447, AL537448, AU120015, AU131841, AU141085, AU134821, AW612291, AU124089, AU139563, AV727622, AV727623, AU133175, BE788006, BF185243, BG257827, AU136898, BF184853, AI627486, AV705533, BF590192, BF577029, AL118692, BG257588, AU153504, BE326681, BF028316, AU154556, AU153492, BF431327, AW369693, BF216161, AI740778, AW239374, AW150161, AU150952, BE972535, AI274815, BG011960, BF210890, AV749930, AI091535, BF241838, AA888926,

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HOUHI25	349	888279	1 - 1235	15 - 1249	AW274757, BF979499, BE875104, AV728303, BF671975, AV727326, AW631495, BF983857, BF248008, BF115795, BF212520, AV717938, BF571136, AV728044, AA976644, BF679046, BF477635, AI907366, BF570689, AA903720, AW972361, AA524665, BE220972, AI984786, BF979139, AI692731, BF213370, AI907373, BE439966, AI268254, AI907368, H08416, BF700421, BF541919, AV705494, AW978976, AI332994, BF540780, BF247753, AI907374, AA826200, AA701660, AI656122, AI657191, BE763093, AA936326, BF572170, BF131794, BF195177, N79377, AV715209, AI950823, BF093269, N88408, BF439990, BE159589, AA772723, N86348, AA399432, BF575806, BF984268, AW206085, AI268253, AI421859, BF680498, AI916469, BF344634, AI420669, BF670000, AF126020, AC004839, and X78684.
HOVBD85	350	827362	1 - 1115	15 - 1129	AC009039, AP001721, AF015262, AJ229043, and AC008015.
HP CAB41	351	758003	1 - 2573	15 - 2587	AW130635, AA732548, R66294, H02322, AA992616, R63528, AA089513, R80947, BG180648, AI110237, AL157372, AL022394, and AL354868.
HP CAL26	352	762822	1 - 3083	15 - 3097	BG164171, BG171313, AW338908, BE327883, BF058325, BE856282, AL525344, BG027433, AA621714, AL047905, AW780148, AI633775, BE973735, AW438611, AI755212, BF381979, AW337238, AI337968, AI963595, AW572336, AA432021, AW471145, AW069566, AA448477, AI936887, BF108841, AI829408, BE748629, AI042324, AI955816, AI421409, AA758227, AA814190, N91448, BF030663, AW192439, AI683517, AA417975, AI129364, AI561083, AA418135, AI088536, AW628520, BE327874, W72280, BE878275, AI348236, AI088467, N26180, AI628017, AI066421, AI346288, AI142951, AI308778, AI446338, AA458899, AI078536, AI346382, AI753070, AA923036, AI431409, AI087120, AI341640, AI567761, AI371263, AI754690, AI285250, BE619821, AA630948, AI354829, BE620033, AW294799, W45027, AI902379, AI537262, AI866883, N27411, BE876666, BF338393, AI963351, AI081820, BE395375, BE620777, BE906942, AI811301, AI627940, AL538418, AA602460, BE548617, BF038519, AW205903, BF893012, W76307, AA701166, AL525384, AW023777, AW956752, BE122762, AA128212, AI094190, BG163634, AI371264, AW856743, AW380612, R81003, BE905099, N23359, BE619502, AI589929, BE905025, AW469305, AI254707, N67744, BE619375, AA961234, BE906749, BE784570, BE909607, AW387716, BE904894.

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HPEAD23	353	773409	1 - 568	15 - 582	BG037089, BF973374, BG025260, BF981319, AI827721, AI220233, BE876017, AA910948, AW663886, AA728767, AI279770, BF727458, AA972390, AI051448, AA932444, AI346841, AA740783, AI186713, AA948231, AA905780, AA918553, AA884145, AI268749, AI346070, AA858123, AA857640, BE275406, AW025402, AI262503, T95182, AL389983, AR082685, AK025239, U90913, AF028823, AR070327, U78525, AL137298, AL389943, AB037111, S54890, and AK025254.
HPFBA54	354	635539	1 - 821	15 - 835	AUI21120, BF037518, AL133934, BF969464, AU137403, BE145195, BF210705, BF104734, AV731147, AU135554, AU138320, AV730235, AV732054, AV730285, AW896115, AA601495, BE065231, AU137259, AW902130, BE082759, AW818223, AW902131, BF338151, AW935656, AL138221, BE065242, BG120864, AW992038, BE065240, AI557245, BF959938, BF960892, BE065188, BE972565, BF929940, AA977057, BE065282, BE065411, BE065370, AI469147, BF679479, AU128307, BF962824, BE866484, BE895022, BE065281, AW939313, AW856804, AW391396, AW969095, AW876637, AL046030, AL157596, AA931987, AW973139, AW501852, BF673759, BE884897, AW235704, AV709805, AI824304, BF801731, AI703258, BE065317, AW936927, AI198511, BE065404, AW992839, BF895153, BF213418, AI860789, AA493718, BF755156, AA682353, AV730846, BE206708, AL120117, BE154234, BF964256, AA847690, BE080185, N29555, BE083044, AA504616, AL039823, AA773326, AA420526, AV731907, AA435704, AV731659, AA420867, AA595827, BF838226, AA205322, BF755154,

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HPFC136	355	855966	1 - 865	15 - 879	AL156624, AW967335, AI346493, BF969871, AI379068, AW813968, AI435632, AW439597, AA160513, AA111896, AI129000, AI803023, AI587653, AI247913, AW080897, AA111878, BF197837, TS8186, H04232, W07286, BE243262, BG165835, AA046003, AW028757, BE882257, BE393612, AA357180, AA085677, AA085834, AA621577, R36594, BF733978, AI014838, AL536330, AV753531, AV751871, R36593, AV752854, AW605869, AA341976, TS8072, AW955926, AA576671, BF825158, BF245058, AL527071, AI367586, N79788, AA321931, AI566375, AI709192, AW379008, AA441898, and AK000452.
HPFD137	356	862056	1 - 338	15 - 352	H55085, AA434130, R25258, R20029, H14658, AW950901, BE275081, R19886, BE727676, BG248105, BF345809, BE730221, BE904350, AC000090, AF106697, AF171054, AF044212, AF166126, AF166127, AB019694, AB019695, AF171053, AF136399, AF072865, and AB027566.
HP1AA80	357	829972	1 - 905	15 - 919	BE865466, BG170320, AW043782, AW662099, AI933030, BF432372, AI553724, AA629903, AW341957, AW073315, AW972918, AA542856, AA380138, H22229, BF667499, C02428, BF573889, BF695553, BF697671, BF982558, BE694971, BE961006,

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HPJB151	358	829114	1 - 2779	15 - 2793	BE892328, AU138262, BG176642, AV702043, BF981227, BE885921, AI052701, BG121164, BE271408, BF338084, BF038072, AW970201, BG255609, AW963984, BE218092, BF344881, AA947966, AA625462, AI697965, BE856084, AA515022, AI801553, BF432432, AI279526, W58093, AW072775, AI279544, BE042549, AA147570, AW016519, N28981, AU153898, AV646053, AA156442, AI290742, AW473888, N46087, AI359281, AV703025, AI934041, AI039495, AA909891, BF941451, H43227, AU157547, H84163, AI188875, AV729681, R14675, BG107522, R80272, D29517, AV683895, H17533, AI928325, N46086, H84164, AI698268, R42399, AA129954, AA904885, AI674561, H22579, W58010, AW815495, AA376960, C01168, AA330318, AA889719, BE149929, AA090341, AW815815, BE149928, AA188998, AA188999, AK002085, and AX002209.
HPJB151	359	878609	1 - 2781	15 - 2795	BE892328, AU138262, BG176642, AV702043, BF981227, BE885921, AI052701, BG121164, BF038072, BE271408, BF338084, AW970201, BG255609, AW963984, BE218092, BF344881, AA625462, AA947966, AI697965, BE856084, AA515022, AI801553, BF432432, AI279526, W58093, AW072775, AI279544, BE042549, AA147570, AW016519, N28981, AA156442, AU153898, AV646053, AI290742, AW473888, N46087, AI359281, AV703025, AI039495, AI934041, AA909891, BF941451, H43227, AU157547, H84163, AV729681, AI188875, R14675, R80272, BG107522, D29517, AV683895, H17533, AI928325, N46086, H84164, AI698268, R42399, AA129954, AA904885, AI674561, H22579, W58010, AW815495, AA376960, C01168, AA330318, AA889719, BE149929, AA090341, AW815815, BE149928, AA188998, AA188999, AK002085, and AX002209.
HPJB151	360	862058	1 - 561	15 - 575	AA180278, AW814395, AW840475, AW840411, AW840473, AW840407, AW840402, AW840465, AW840410, AW840408, AW840466, AW840412, AW840471, AU119289, AW840406, BE797641, AA584638, AI922061, AW840474, AW840500, AI936549, AW840576, AW977443, AA501775, T03028, AW840551, AI868368, BF949385, AW840549, AA780549, T03249, AI820994, AW840501, BF804723, T66926, AU138078, AA055576, AA258511, BE304382, BF125684, AA766720, AV731936, AA883167, AA376315, AW663052, AI553950, BF001969, R90980, AI940701, AA128719, AW269572, AW270592, AI261785, AA640155, AI621141,

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HPICW58	361	612866	1 - 1151	15 - 1165	
HPMBX22	362	702012	1 - 440	15 - 454	BF513375, AI691035, BE856745, BE504702, AA811266, AA504621, AI569223, AI990010, AI984591, AI312945, AW188216, AU151786, AI826803, AA814187, AI951348, AA481199, AA740828, AI692671, AA457403, AW080568, AA115461, AA164487, AI808045, BE858405, H96862, AA164409, AI219805, AA169281, AI672331, AA164493, AI222468, AA287650, W67151, AW613600, BF033353, AI619506, AA765102, AW771812,

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HPMCJ84	363	562779	1 - 774	15 - 788	AW275432, AA557945, AA410788, AI355246, AV758722, AL041375, BF681222, AW963463, AI278972, AI687343, AV717715, AW872736, AI064918, AA525753, AV695953, AW969824, AA856841, BG180320, AW272815, AL121039, AI702049, AI223626, AW238712, AV760014, AI923052, BE155951, AI926102, AI572680, AI797998, AI141130, AA809125, AI802804, AW327852, BF112174, AW023111, AV718585, AU147162, BF814183, AI254770, AW270385, AU146498, AV718485, AV762982, AL042230, AA808875, AI628859, AA456937, BE090413, BF920612, AV695478, AA730305, AA084609, AA578472, AV762633, AA127426, AV758903, AL040374, AI287766, AA533054, BF530611, AI056177, AW148821, AV711203, AA297961, AI523205, AI267356, AW021674, AA515048, AW501278, D44672, BF529925, W96522, BF940118, AI053398, AW439703, AL041894, AW969743, AW856329, AL048060, AV762430, AI253987, AA489390, AI537020, AW105463, AA515924, AW020088, AI291439, BF725844, BE501670, AW778780, AI537995, AI536858, AI279417, AI267450, AI130709, BF828756, AA631497, AA610433, AL045077, AA708322, R97281, BE077105, AV759295, AL036665, AA634209, AW474152, AI280535, AV754716, AI251429, AA564256, AI609992, AA904211, AA064961, AA713705, BF805088, BF857849, BE328286, AW272640, H27788, AA827231, BF525663, AI814682, AL037632, AI150131, BF111477, AI521525, AW975010, AA441810, AI421755, BF852885, AA297776, BG231195, AW849714, AW572140, BF589824, AV761989, AW089550, AW270256, AI569401, BG166570, AI471455, AA664126, BF034649, BF804385, AA581240, AI065031, AA595661, AI307201, AW148775, AI499954, AI192440, BG222214, AW779609, AP001711, AL109976, AI68787, AB023049, AC011811, AC004645, AC008752, AL136179, AI109758, AL117381, AL356299, U72788,

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HPMCV30	364	612870	1 - 894	15 - 908	BG122182, BG034611, BE548730, BG110667, AW205272, AI800593, AI802988, F25189, AI740610, N23684, AW470648, AL120942, BF530954, AA890692, AI352429, AI634593, BG060184, AA554454, BG255820, AU145072, AW026128, BF431915, AI937808, AA593782, BF436462, AI826416, AI362153, AW071745, BF345276, BG107551, F28025, AA629269, AV762395, BF527699, AI216789, BG059451, N33439, AI362065, F37490, AI721014, AW874543, D52077, BE208411, AL042101, F25151, AI144207, AI423120, AA229607, F24889, F20765, AV761362, F30834, R84504, T27765, AV763971, AW006041, AI334443, BF668217, AL119691, AV763418, BF766630, AU147922, BG060172, AA523503, AW975164, AI720758, AA302029, AV759935, BF241967, BF677892, AF177861, AV763540, BF477449, AI284640, AV744105, AV761489, AI061361, AI904894, AL046409, BF982691, AI053445, AV744733, AI865213, AV762111, AV763255, AV735370, BF984558, AV741390, AI963720, F25232, AV761786, BG249643, AV759274, BF674369, AI289199, BF475381, AI679782, AL138455, AV762098, BF919090, AI500671, BF918590, AI004246, AA581903, F16559, AI306630, AI291821, AI792287, AI284007, AW193265, BF793766, AA703891, BF792268, AI431303, AI708009, AW274349, AW970571, AW303196, AI252506, BF701281, AV762826, AA302020, AL041690, AI613280, AV682003, AA501614, AL037910, AI370475, AW473163, AV702609, AV706237, AV763401, AI133164, BF915839, F19506, BG230879, AA954712, AW301350, AV760937, AV763354, AA308136, AF330238, BF337291, AA374320, AL044940, AA320811, AV758722, AW472872, AW438643, AI345654, AW021583, AV762397, AW265393, AV762139, AA469451, AI350211, AW075979, AW406447, AW662543, AA872171, AV759967, AV713291, AW500125, AW515448, AW504485, AI623899, AW872676, BF681619, AI281881, AW088846, AI281903, AW974109, AW021207, AL046205, AL045709, AI418972, AV710066, AI270117, AV762505, AV764307, AI272314, AI273107, AA491814, AW407578, AI890348, AV762064, AA490183,

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HPMFH77	365	702014	1 - 1877	15 - 1891	BF969970, BG253932, BE857961, AI185063, AA985520, H97907, N70065, AA503843, N68939, W94388, AA829801, AA349438, W00572, AI301208, AA349459, R23765, BF813707, R23718, AI129242, H97073, H47246, AI382737, BF818365, AW027760, AW027780, W74636, AI471120, AL042488, BF932339, BF891282, AI401774, BE859019, AA775471, AI685740, AC007270, AL139100, and AL078600.
HPQAX38	366	843592	1 - 1143	15 - 1157	AU146417, AI963720, AV728425, AV652936, AI284640, BF668217, AL046409, BF677892, AI431303, AV740801, BF241967, AV702857, BF337291, AV728928, AW407578, AV762009, AI061334, AI956131, AV725423, AI613280, AI350211, AW193265, AW502975, AV725431, AW419262, AU147800, AW406755, BF940837, BG249643, AW969629, AW276827, AA178953, BE047069, AA192740, AI341548, BE160516, AL042420, AW072587, AI289067, BE742023, AI688846, BE906897, AW193432, AI610159, BF724767, AL044858, AW023672, AI341664, AW148792, AV763122, AA877817, AV763701, BF475381, AI340453, AA126450, AI619997, F29989, AV730952, BE349302, BE205860, AW021583, AW265385, AL041690, AV729881, AI610376, AL138265, AW965008, AI365988, AI085719, AL138455, AW974109, AI471481, AW472872, AV762050, AV762139, AW517388, AW276435, BF965007, AW517737, AI345681, AI357551, AI345675, AI824562, AA521323, AI358229, AW238583, AA177061, AV762067, AU151000, AW778859, AW967231, AF063563, BG059568, AA680243, AL044940, AA594145, AW673241, AI249997, AU149045, AK021991, AL121841, U67221, AF015149, AC007999, AF015148, AL023879, AL135744, AL355478, AC004890,

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HPQAX38	367	845752	1 - 1144	15 - 1158	AU146417, AI963720, AV728425, AV652936, AI284640, BF668217, AL046409, BF677892, AI431303, AV740801, AV725431, BF241967, BF337291, AW407578, AI956131, AV702857, AI061334, AV762009, AI613280, AI350211, AW193265, AW502975, AV725423, AW419262, BG249643, AU147800, AW406755, BF940837, AI341548, AW969629, AW276827, AW072587, BE047069, BE160516, AL042420, BE742023, BF724767, BF475381, AI688846, AV763701, AI289067, AI610159, AW193432, AA178953, AL044858, AW023672, AA192740, AI341664, AW148792, AV728928, AV763122, AA126450, AL041690, AI340453, AA877817, AI619997, BF724372, BE349302, AW021583, BE906897, F29989, BE205860, AW265385, AI610376, AI365988, AI138455, AI138265, AW965008, AV729881, AW974109, AI471481, AV762050, AV762139, AI085719, AW276435, AW517388, AW472872, AW517737, AI357551, AW238583, BF965007, AI358229, AI824562, AI345681, AI345675, AA521323, BF930292, AI249997, AU151000, AW778859, AW673241, AA177061, AA594145, AV658688, AU149045, BG059568, AA680243, AL044940, AK021991, AL121841, AI355478, AL023879, AF015148, AC008687, AC004890, AC010326, Z83840, AC005531, AI137059, AL023575, U57007, AL008725, AL157906, U95742, AC005725, AC020629, AC020559, AC007529, AC007437, AP000556, U67221, AC007216, AC020904, AB041731, AC007043, X53550, U18393, AC007619, AL445483, AL024509, AC069247, AC005212, AC007611, AC008264, AC007957, U18392, X55926, AL135744, U57009, U57006, AL135940, Z97630, AC007999, U18394, AC006285, AC005081, AC007050, X55925, X54176, AL353807, AC003962, AC008616, AC008543, AL357558, D83989, AC002420, AC005588, AC020626, AL133284, AL121949, AC006458, AC020750, AL049696, AC002564, AC006131, X55931, X54181, AC023344, X54175, AF002992, U18391, AF223391, AC004534, AC005519, X76070, AC004057, AI157838, AL365229, AF077058, AF015149, AC008770, AL050321, AC006958, AL109743, AC008623, AP001692, AL023494, AC008080, AF015156, AP001732, Z85987, AC008134, AL138787, AP001699, AC004526, U57008, AC035149, AL117336, AL137073, AC006153, AC004889, AC009517, U91322, AL391839, AC009060, U67211, AL357153, AC004544, AC005019, AC007383, AF015152, AC004612, AC002509, AC006543, AC011327, AF015157, AL050318, AC018493, AL008732,
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HPQCB83	368	740761	1 - 2253	15 - 2267	
HPQCC53	369	570821	1 - 420	15 - 434	AW968611, AI821399, T89649, AA465192, T89301, C16196, AA513285, AA513290, H88380, AW516458, AA598873, AI368654, AA935145, AA225168, AI494601, BE328740, H98112, AW118230, AA130535, N31853, AI762876, AI868522, H88527, BE440187, BF887073, BF508429, BF154515, BF750262, BF750261, BF750977, BF750099, AA216401, BF749988, BF750976, BF750257, BF748629, BF750038, BF750095, AA730383, BF750259, BF750975, BF750102, AA225686, BF749539, C00684, AC005070, AC004943, AF111112, J00983, and AL137222.
HPRBH85	370	695752	1 - 1659	15 - 1673	AI147467, BG252600, BF354490, BF354491, BE999965, BF032961, W52563, AW512426, AI810178, BE274472, AI188557, BF432115, N25987, AI700626, N29859, AI659619, N29340, AI031999, AA974460, AI267374, BF593262, N36618, AL538054, AI350777, AI656701, AV724003, W01296, AI949788, Z39752, H09136, AA234945, W60255, AA635309, Z43693, H09192, AI583723, BE830918, N67638, AA371469, AA706920, AI537632, AW028490, AI799012, AA234944, R34999, T64063, AA855109, BF082755, BF332778, BF082768, BF082759, BF082766, BF328302, N57281, AW301576, AA610602, BE181224, BE830920, R49386, BE009565,

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AI621341, AI524654, AL046466, AI474646,
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AI475371, N92140, AW827107, BF811808,
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BG253684, BE892118, AV701597,
BG170663, AW080140, AV682112,
AW025279, BG260760, AW021091,
BF796402, AI923559, BG260287, AI610446,
N25033, AI702527, BE966968, BG256090,
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AV682403, AW021256, AI932794,
AV757018, BG255493, AW076127,
BF527697, AA838435, AI560873, AI590043,
AI440260, AV747571, AV656932, AI433590,
AW029566, AI819976, AW020710,
AI609331, AV762892, AI225000, AI357599,
BF680133, AI954721, BG260524, AI815232,
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BE047852, AW172745, BE439677,
AW089275, AW020419, AI079736,
AL039390, AI879377, BE536417, AI500061,
AI306610, AW168875, AI537516, BE621256,
AI799313, AI096771, T69241, BG250789,
AV682250, AI225004, AI698391, BG113851,
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AL137459, AK024747, AF006516, AF287051,
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I89947, AI137480, AK026389, S82852,
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HPRA64	371	824074	1 - 2791	15 - 2805	AU131998, AU124333, AU124752, AU126247, AU133773, AU118720, AU138965, AU125907, AU124348, AU120256, BG120186, AU135144,

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HPRC35	372	853551	1 - 695	15 - 709	AI952238, BF966633, BE673553, AW249944, AW673164, AI491912, AI433456, AW027835, AI434093, AA040338, BG152387, AI744101, BF589019, AI433927, AW388710, BE710661, AW027844, BF951319, AW514110, BE893648, AW235679, BF951645, AA853738, N77918, BF904963, AW027796, BF951640, AI820008, BF802330, BF802123, BE091385, AA040337, D20818, BG116710, W07085, BE348578, BF979894, BF448283, AI806099, AA746652, AI269951, AI370493, BE251472, BG255671, BE743054, BE873348, AA034242, AI269933, AI494531, AA193194, R01841, AW130830, R71213, BE746974, BG252660, R01109, AV746580, AV709278, AA910706, BF204537, R94047, N62862, BF832992, AI828509, BE700205, AW899366, BF951647, AA323326, AI042486, AL527593, T97110, AW176293, AA886453, AA319188, AI521632, AV699431, BF922964, AV700764, AV700026, W26006, N93989, BF951643, AA193234, N87415, BF825093, BF841081, BE695594, BE695488, AV695783, AV692484, T69241, AA398143, AV682403, AV682366, BE907663, BG030601, BF978949, BF965959, AI801106, AL039456, AI499161, AI635132, AL359611, AK025633, AB037802, AF109377, AK026408, AF130056, AL133088, AL359583, Y10183, A21103, A65341, AB048881, AC011450, and I89947.
HPTRM02	373	812879	1 - 1746	15 - 1760	AL524458, BE738365, BE797125, BE799999, BG029222, BE745922, BE545163, BE907437, BE799866, BF305271, BE544399, BF663830, BE796881, BF308083, BG169861, BE350925, AW385462, BF307517, BE797270, BE743037, BF668016, BG180312, BF974123, BE737908, BF663981, AW247807, BE513095, BE906969, AL138083, BE255971, BF664455, BF338518, BF244474, AL536412, BG231717, BG121312, AW005562, AI357069, BF000625, AA644049, AL523557, AW513359, AA632166, AW246260, BF892728, AA706163, AL520864, BE746537, AW245080, AI879390, AA496904, BG177219, AW005067, AW276591, BE791039, AW804483, AA738041, BE747177, BF869837, BE251828, BE875024, AI088680, BE297879, BF948818, AA831030, BE559592, BE561590, BF340321, AW248071, AA860150, AA149920, T63138, AL524459, AW439742, AI609027,

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HPWBA29	374	561956	1 - 311	15 - 325	
HPWDK06	375	839825	1 - 864	15 - 878	<p>AW888222, AL046979, AL047495, BF347200, BE440098, BF342591, AI962895, BF346719, AA496366, AW361998, AA602785, AA180862, AI822089, T57230, AW008560, AW960585, R72686, AI283814, BF851579, AA740442, AA834942, AI361142, BF526220, AI015006, N80819, AW008112, AA115201, AA115200, H10988, H39868,</p>

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HRAD30	376	866187	1 - 1482	15 - 1496	<p>AL532354, AL522279, BE901890, BE540972, BG032448, AA190575, AA156945, BE905023, AW574711, AA135911, AI819256, BE870633, AL045203, W52076, BG164415, AW080055, AA781071, AI379616, W79520, AI333037, AA292030, AW973895, AL041847, AI039603, AI334184, AI085721, BF845494, AI620258, AI351665, AA860369, AI355677, AI143451, BE818571, AA035097, BE771940, AA152279, BE771894, BE700978, BE771883, AI041365, AI378200, AI399638, BE559799, BE771877, BE838114, AA594545, AA861397, AI093982, H62081, BF822458, N20028, AI955108, BF923400, W79407, H12016, BF511282, AA150445, AA827596, BE513499, BF508487, AA707356, BE559662, AW958307, AU155398, BE561589, AI520777, AA393466, BE396734, AA035096, AA632356, AA311172, AI919222, T91077, BE560765, T85939, AI471067, R67192, AW391451, AW175816, AI919430, BF434608, BF330692, BE268712, AI193689, BE382939, BF972519, AA385743, BE513317, BF329934, T89536, BE838087, AI825607, AI970861, BF743334, BE315500, AA736409, AA095976, AL532355, AK025492, and AK023398.</p>
HRADA42	377	827302	1 - 1121	15 - 1135	<p>BG167431, AI870419, BF794745, BF212001, AI379833, AA894530, AI339336, AI336165, AW173013, BF688231, BE546835, AW615315, BG029651, AI660120, BE793058, AI961630, BG024470, AI418065, AA946777, AI697018, AW629846, BE538634, BF694672, AA126483, AW957695, AA948109,</p>

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HRADF49	378	866481	1 - 2690	15 - 2704	AL521382, AL518826, AL521381, AL530977, AU124017, AL040407, BE791530, BF981293, BG254592, AU118953, BF344355, BE740053, BF303862, BF569193, BF689517, BG169396, BE746952, BE299333, BF343050, AL040965, AI890747, BE262124, BE262749, AW952814, AL039282, AW084007, AI911096, BF337955, AU158472, BG253868, BF690437, AW270132, AU145398, AA531346, BF725565, AI803664, AL039531, AW663883, BF980374, AA284526, AV704289, AA464099, AV727566, AA725631, AA287069, BE313910, AI937483, AA459615, AI362056, AW269445, AA994395, AI827109, AI963554, AA531242, BF725564, AU145598, AV751889, BE047669, BE302399, AA292966, BG033996, AA417174, BF036819, AI159963, AA575850, AL044057, AI309235, AW268808, AA417070, AW581576, H93876, D53731, AA703065, H17707, BG004754, AA598746, BF878254, AI751892, AI863325, AA699411, H93516, AA612854, AA326192, AA608913, H50994, H06488, R77015, AW802244, H17796, Z21667, D60336, H06546, D53158, AI499464, H17089, H03185, H51646, BF843440, R70504, AI751893, AW104937, D60587, T15778, AA463962, AI698963, BF570178, BE093116, AA367859, AW073342, R74223, R70596, BE903088, AA339790, AI611402, AA827345, AI872839, AV747217, BF207394, T85774, F17581, F22580, AA333977, H03985, BF886534, AA459390, AA781915, BE041929, AW178545, T91167, AA074564, BE075634, T07088, AW273719, BE378883, AL529296, BE835059, R67434, AL518827, BF216264, AI609819, AW749542, BF830925, BE621938, BF834744, AL040408, AW387038, BF888401, AA868869, AI287476, AI445862, AA742390, AA766077, AI955866, BG164250, AK025822, AK021732, AF308473, AF017152, AI2297, AK026615, AK000618, X62580, AB049629, AB048974, AK000445, AK026894, AL133081, AK000027, AL161953, A65965, AF078844, X56039, AF114784, A65943, and AF130075.
HRADN25	379	800628	1 - 1211	15 - 1225	BF970417, BE871509, BF794109, AL526454, BE613934, BE905773, BF530960, AI911227, BG177658, BF034925, BG108075, BF203211, BG180755, BF691907, BF344447, BE781907, BE387776, AW149618, BE395988, BE262824, BE379253, BF978384, AW025001, AI760168, AW082806, BE391375, BF130003, BE139640, BE544410, BE909917, BE388549, BE884607, BE614181,

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HRADT25	380	800737	1 - 1310	15 - 1324	<p>AW968355, AI432644, AI623302, AI432653, AW081103, BE672759, AI432654, AI432677, AW968729, AW968356, AW972093, AI431307, AI431316, AI432650, AI432666, AI431238, AW972092, AW972090, AW972091, AI431323, AI431321, AI431235, AI431315, AL042729, AI431246, AL042533, AI791349, AL042853, BE672622, AW858522, AL043166, AL042931, AL042655, AL042515, BE672627, AL043295, AL040207, AL042488, AL042842, AL042802, AL042508, AL042420, AL042832, AX030435, Y17793, AF019249, AX030436, AR071207, AF064854, AL133074, and AL133076.</p>
HRDAI17	381	560720	1 - 1486	15 - 1500	<p>AW974589, AW867451, AA579866, AW965263, AA460591, AW298601, AA461519, H56628, BF845119, AA018544, AA331634, BF244465, AI630413, AV741309, AI254046, AW302016, AA661929, AI754721, AI255060, AI270853, AI252826, AI435754, AW086343, AW301997, BE857819, AI271005, BE139221, BE139213, AI254826, AW271081, AI224422, AI252060, AW302086, AI254783, AI307025, AI254056, AI254683, AI223591, AI252493, AA484479, AI362694, AI524022, AI251312, AI308320, AW237905, AW407632, AI141964, AA730035, AA678950, AV709139, AI189682, BF448904, AU146063, AW275432, AL037777, AI365618, AI206841, AW963594, AL047480, BF971214, AW009653, AI284543,</p>

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HRDDQ39	382	840405	1 - 762	15 - 776	AA564252, AV763026, AV763058, AI499954, AI654738, BF763954, AI066646, AW813668, AI537020, AI801505, AI491765, AI251576, AW502796, AW272294, AA935409, AI040051, AI306232, AA503298, BE062545, AA225406, AI583466, AW274191, AI755202, BF771774, AW962251, AI635028, AV764259, U95740, AB020867, AF001552, AL049712, AC007066, AC002996, AL357752, AC008372, AC004973, AL163285, AC009516, AL031230, AC005034, AL160397, AL008635, AL158830, AL033518, AC007172, AC005768, AC007425, AL031123, AC005911, AL157838, AC009756, AC006600, AC007748, AF312915, Z99716, AC008733, Z83822, AC004675, AL121753, AL121754, AL109804, AC006511, AC005157, AL133324, AC006480, AL080243, AF088219, AC004887, AL139353, AC002563, AC005081, AC005859, AP001752, AL442167, AC018738, AL031685, AP000557, AL133229, AL031311, AC003962, AL034372, AL133295, Z93020, AC004209, AL078581, AC007226, AL356503, AC010789, AF168787, U85195, AL080314, AC011510, AE000658, AL133244,

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HRDER22	383	688056	1 - 529	15 - 543	<p>BF727044, AI748813, AI694426, AU148346, AI860331, AW206751, H19708, AI368623, BF685348, BF061078, C15772, AW973165, F22520, F29231, F36814, H67240, AA550873, AI871877, AI003318, AA883557, H81558, H20045, AA609021, AI679361, BF683664, AI216706, AW079340, D61490, AI867271, C01198, BF946359, AI215944, F18487, AA970129, and AK001252.</p>
HRDEX93	384	816046	1 - 1667	15 - 1681	<p>AL527900, AL529036, AL529408, AL533906, AL533907, AL529035, AL527941, BE903615, BE791071, BG166982, BE299248, BE793113,</p>

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HRDFK37	385	840381	1 - 714	15 - 728	BG107419, AA210943, W77904, AA729879, N27422, BE833271, BE833267, BE698411, BE698282, AA116105, W72144, AA460896, AA460724, D19856, AA116106, BF911568, T74524, AA664126, BF830998, AA658018, BF747320, AA568853, BG015078, N66744, BF346026, BE090515, H85032, AW902135, AW902110, H86546, AA059247, AI627868, C16358, AA017169, BE090514, AI224184, W38349, AU147414, BF800607, AA016279, AA507035, AL035413, AL033529, AC011449, AC020913, AC008379, U91321, AL354720, AC023510, AL357559,

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HRGBD54	386	828436	1 - 2287	15 - 2301	BG109258, AI022000, AW959317, BG034793, AI185806, BE253264, AW439445, BE350101, AW149835, BE710394, AU126065, W81656, AI873499, BE395876, W81655, AA831308, AI912453, BE155482, AW579947, BE006021, BE155401, AW383523, AI932645, AW579942, AW383468, BE763703, AW380359, AW380382, BE155345, AU152208,

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HROEA08	387	866190	1 - 267	15 - 281	<p>AW574751, AA632394, AL134836, AW136073, AA811758, AA811105, AI394409, AW977786, BE729703, AI270255, AA811088, AL529596, BG255532, AA459654, AA025558, AA926898, BG106368, BF692537, and AF106062.</p>
HSAVA08	388	580870	1 - 1047	15 - 1061	<p>AA523633, BE562634, AI828787, AC008738, AC005722, AC020908, AL035685, AL049843, AC005089, AC002465, AL050335, AC009123, AC005320, AC002365, U91323, AJ251973, Z95115, AL133545, AC011444, Z95152, AC002378, AL139352, AC006160, AL109825, AC005015, AL162430, AL033526, AP000697, AC005328, AC007907, AL353653, AC010463, AC007637, AC018644, AC002996, AP001712, AC005756, AC010363, AC005225, AC002544, AC002470, AC003684, AC011480, AC007277, AC011491, AL022394, AC068799, AL137918, AP001726, AC006130, AL034420, AC010412, AC024075, AL445669, AC008395, AC005409, AC003957, AC004953, AC007685,</p>

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HSAVW42	389	637660	1 - 581	15 - 595	AI336192, AI911235, BE644656, AI459354, BF030919, AI333569, AA652155, AW974708, AI700779, AA932386, AI922689, AI888953, AA848053, AI863382, AI932794, AI554821, AI539687, AW081231, AI587156, AW189415, AI610362, AA225339, AI934011, AI498067, AW168373, BG031338, AI280732, AI590423, AI590686, BF724894, BG036614, AV709522, AI242251, AV756150, AI890907, AI687065, AV682074, AI583065, AI472536, BF811793, BF812960, AW167222, AI636588, AI249946, BF970652, AW169234, AI431909, AI610115, BF981148, AI635016, AI874243, BF970768, BF727034, AI798351, AI580254, AI627988, AI037582, AI037602, AW022682, AI916419, AI872804, AW072719, AW151714, AI613038, AI470293, AV704962, AI588892, BF725644, BE965169, AV757161, AA470491, AW172723, AI281867, AI514791, AW983783, AI802542, AV682875, BG256090, AA502794, AI758437, AI609409, AI798456, AI345551, AI628833, AI590830, AI560683, AW198090, BG108070, AV733470, AI591407, AW090071, AI335426, AI348777, AI521244, AW983832, AI955906, AI288050, BE963244, AW084117, BE546262, BE783819, AI514627, AI274541, AI274745, AW059713, AI612913, AI493576, BG165979, BF726207, AW268302, BF033757, BG001235, AW104196, AI538764, AW983754, AI633125, BF726237, R36271, AL042628, AI539771, BG108268, BF528717, BF970263, BE621472, AI680498, AI269696, AV714710, AI655841, AA910956, AI890223, AI921281, AW169039, AI686073, AI583085, AV682224, AW162189, AW105601, AV648430, AV714100, AI567612, AI697372, AI702073, AW827227, BG179993, AI866082, BE018334, BG114304, AI633000, BG112239, AI950664, AL039086, AL046849, AI816947, AW302954, AV734180, AL036980, AV682791, AW169604, AI249877, AW082088, AL041105, AI866770, AI887772, AA427700, AI376180, AW002174, AW089179, BG036846, BE966927, AA807352, AI241923, AW167918, AV755589, AI864836, BE892503, AI621362, AL048323, AL040827, AI570807, AI634345, AL048340, BE785868, AI608932, BE910373, AI537677, AI879064, AW081255, AI738854, AI956080, AL080046, AI440263, AI862135, AI690748, AI865906, BG180295, BF868489, AA833760, BG108309, AI537261, BF342157, BF764528, AI866083, AI623941, AI922315, AI433157, AI870192, AI597731, AA641818, AW198112, AI637584, AI440239, AI345677, AW151729, BF753013, BF924882, AW004886, AW079336, AW983691,

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					AK026630, AL133665, AL133075, AL049465, AF061795, AF151685, AK025254, AL157431, AL137527, AF207829, AF032666, AF081195, X53587, AL137276, AF271350, AF100931, AF113689, Y11587, AR000496, U39656, AB050534, AL353957, AF177336, AK026885, L30117, Y09972, AF116649, AF262032, AL359620, AK026551, AL050393, X93495, A03736, S76508, AK027114, L19437, AK026504, AK025967, AK026528, AF130105, AL117585, U68233, I92592, AL110221, AL162062, AL050116, AL096744, AL133077, AL110225, AL050138, AJ006417, AF106862, AF130059, AB034701, AK026408, AL137429, U00763, I26207, and I96214.
HSAWN53	390	634697	1 - 335	15 - 349	AA865128, AI174766, AA047715, AW995665, AA702729, AW900503, N74072, AA584450, AW129249, AL079734, AW163293, AV733228, BE313883, AV709273, AA741028, AV733627, AA648990, BE827710, BE172296, AA738097, AL043289, AI250083, AV755512, T08298, AA454041, AV716360, AI147425, AL138228, AA724782, AI921328, AW468297, AL134242, BF832365, N71746, BE968438, AW023265, AI345294, AI732378, AV759518, AI811302, AC078889, AC005914, Z93930, AC005393, AC007465, AP001671, AF250324, AC009509, AC004682, AC000120, AL033523, AC025472, AL158830, AC006112, AC007387, AC005670, AC004098, Z94161, AC004531, AC015853, AC004477, AC007036, AC026881, AL138823, AC020647, AC008750, AC069277, AL050318, AC026179, AC003024, AC024154, AL024498, AC006466, AL031055, AP000240, AC006204, AL133258, AC019046, AP000269, AL159168, AL096701, AC002449, AP000103, Z99570, AC006213, AP001438, AC007488, A91683, AC023105, AC005522, AL133320, AC011604, AL109827, AC000119, AF168787, AL109823, AL158823, AL355305, AC004089, Z82190, Z84487, AL121588, AP000033, AL035416, AC003977, AL008718, AC007446, AC005599, AF275948, AL034374, AP001714, AC007912, AP001705, and AC005887.
HSAWZ40	391	634000	1 - 1005	15 - 1019	AV730902, BE148579, AW593457, AL120258, AW961858, AW183914, AA724767, AW975579, AA630162, AA715979, BE062935, AW862584, AC007023, AC010293, AC010977, AL139095, AL034410, AC015592, AC020637, AC017037, AL357498, AC006343, AC008685, AL353999, AC025765, AC003015, AC008664, AC006477, AL023582, AL360270, AL354750, AC006928, L35657, AL162414, AC004147, AL391829, AL391689, AC007488, Z68868,

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HSAYC41	392	688057	1 - 200	15 - 214	AF001545, AA548754, AA909788, AW468262, AI751080, AI251827, AA576709, AI800743, AA875953, AW131183, AW149412, AW339554, AI263391, AW168132, BE300485, AI638563, AI920829, AI751079, AV700614, AI682030, BF688845, AA665727, AC000159, and AB007864.
HSDZM54	393	637870	1 - 540	15 - 554	AV729255, AI535959, AV726938, AV701879, AV729339, AV654282, AV725709, AV705433, AV702947, AV691890, AV662257, AV705443, AV706584, AV725529, AV728243, AI557222, AV726503, AV709039, AV692176, AV758197, BF942332, BG222560, BG222322, AV738071, AA469321, BE880733, AV717185, BE881230, BE879882, BE875275, BE876183, AI064816, BE877078, AA467922, AV724819, BE877083, BE877146, AL047841, AV653804, AV707611, AA468250,

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HSBHF76	394	715838	1 - 1259	15 - 1273	AI198543, AW027453, BF569035, BF062076, BF056301, AI694380, AW771566, AI950836, AI769655, AI800526, AI765069, BE552071, AA708811, BE645418, BF983434, AW514312, BE870149, AI804763, AI193044, AI273413, BE840116, AW504874, AA156450, BF568737, AA678373, AW369915, AW071657, BG150349, AA143141, AW369859, AW369914, AW369917, N45126, AI143564, AW196425, AW369906, AA026661, AA147579, AI248731, AW176312, BE857715, AW378548, BE840067, BE840065, AW369858, W70056, R68010, C15009, AW960647, AA564420, AA534504, AW516592, BE696667, AW168286, AW027279, W70183, BF334843, AW631008, T49357, AI248547, AI909950, R68011, BF115265, AW369857, C15008, BF847503, AW316856, AA368406, BF054931, T24692, AI653377, AI762291, AA503862, C15912, AA143381, AW316788, AI891034, R73287, D80781, AI688643, AA370097, BF351644, W57620, BE502165, AW627705, BF513704, AI418942, AI767449, AA427668, BE673340, AI342555, AW748211, AI682534, AA513358, AA026709, AA333744, AI333618, BF939494, AI660050, AI291907, AI906801, AI906791, and AC009000.
HSIFG47	395	778378	1 - 868	15 - 882	BF873012, BF873015, AW964468, AW966389, AW975618, AW949645, AW966330, AV724520, D80045, AV702035, AW366296, AV738340, AW949642, AW964532, C14331, AW965158, AA305578, AW375405, AV720533, AV705869, AV720791, AV718692, AV744012, AW973541, AV718489, AV720731, AW949643, AW964541, AW959062, AW949657, AW964477, AV744690, AV718440, AV720028, D59859, D80038, AW966050, AW966053, AW965175, AV720203, AV719188, AW978648, D59467, AW965185, AW965197, C14389, D80227, AW956434, AW966062, AW966022, AW966534, C14429, AW960465, AV699927, AW960504, AW964756, AV719913, D80195, AW958992, AW966013, AI905856, AW966041, AW975621, AW973490, AV718931, D80391, D80164, D59275, AW966054, D59787, AW949641, AV719783, D59502, AW959597, AW959570, AV719468,

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HSJBY32	396	702020	1 - 1634	15 - 1648	BF343450, BF345692, AA262389, AI139700, AI673104, BF059093, AW149737, AI660069, AF199235, AJ295237, and AL133379.
HSKDR27	397	580874	1 - 748	15 - 762	AI984221, AI740960, AW015044, BF591015, W80440, AI141908, AA627626, AA969950, AI581286, AW613262, AW170703, AW073992, BF338322, AA480836, R52038, BF436470, AW074677, AA994760, BE219883, AI381244, BE677262, R52037, BE327304, R49984, AW304136, BE042923, R47846, AA359428, AI538725, AW836013, C00374, BE550516, AA887620, AW873686, BG107838, BE048302, H50794, AI961625, W79036, and AF177941.
HSLHG78	398	846148	1 - 1460	15 - 1474	BF109231, BF694636, AW135400, AW305037, AA173572, BE514897, BF673063, AW957220, AV726758, AI684646, BF439158, AW439538, AI400156, AA724787, AA419059, N20186, AA173186, AW118657, AW291667, AA779589, AA418857, AI078276, AA937546, AA884182, AA757232, AI371708, N29088, AI859336, AI283169, H27055, N46871, AI288518, N22472, AA418856, AW013998, AA148378, AI689365, AA954340, T60061, AA423815, BE221385, H83568, AA902571, H83457, AA370551, AW305297, H45940, AA148413, R25513, BE463574, AI678949, AI973040, AA878219, R45577, AI873965, AW089393, AI262824, AW078536, AI971960, AV750904, H28231, AA248005, AV749007, N47192, C00626, BF969636, AV696790, AW950443, AV660096, AW955900, AV726966, AV651281, AV702950, AV661083, AV707458, AV690565, AV692600, AV660258, AW954439, AV702728, AV704124, AV702794, AW952751, AV703495, AV703146, AW962444, AV708091, AW955710, AV651955, AV727343, AW960601, AV727381, AV706975, AW950219, AV703972, AV704607, AW952403, AV705635, AV706279, AV726694, AV725152, AV727822, AV686064, AV707652, AV709580, AV724987, AW956792, AV708109, AW951281, AV658275, AV709935, AV651503, AV702832,

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HSNAZ09	401	527221	1 - 612	15 - 626	H60860, and AA807322.
HSNBM34	402	635131	1 - 2172	15 - 2186	AL536186, AL531092, AU122269, AU141256, AL517543, AL536185, BE796661, AI052692, BG253425, BE902706, BG259810, BF343446, BE902245, AU121842, BE256726, AL517542, BG120047, AW149519, AI569076, BG250631, AI683339, BE902473, AU139256, AL513575, AI679283, BE049376, BF219821, AL048381, AI065090, BE867031, BE744360, BE256766, AI935198, AA573792, AI963086, BE250714, AW173560, AI690938, AA573194, AW172834, AW192800, BF570159, AW338466, AW173515, AI871886, AW264055, AW083435, AL513576, AI972125, AV692704, AI569959, BE252221, AW081978, BF569657, BE250299, AI355854, AU137971, AI884543, BF971275, BE279755, AU134876, BG119978, AA553785, AL535675, BG256137, AI624040, AW168911, BE251490, AI983677, BE617477, AA573798, AW770904, AA553547, AW338256, BF569362, AA151761, BE731933, BF914823, AW673207, AW058092, BE378102, BE903055, BF914811, BE328617, AA890369, AW469165, AA614295, BF569993, BE293188, BG024165, AI679858, AA527510, AI954296, AA984269, BG167033, BF972479, BG249971, AW591878, AV698722, BE546239, AU147891, AI826939, AI570855, AA552428, AI905936, AI569573, AL039833, AW250413, BF036826, AI683139, AV693761, AW169566, AI535674, BE962440, AL045941, AA677605, AI336684, BF913847, AW440576, AI205324, AA904129, AI564975, AI755277, BF914809, AI159924, AI521405, AW088700, BE677468, AA912041,

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HSOAH16	403	827058	1 - 707	15 - 721	<p>AL535141, AI279417, AV756220, BF725761, AI249365, AW274078, AW589345, BG056992, AW089016, AI272052, AI206841, AW674258, AA449997, AI623764, AL047349, AL037910, AI904840, AA491960, BE138484, AW439703, AW410354, BF751949, AI189682, N57681, T57767, AI004591, AI380617, AA205304, AI251429, BF953591, AI628859, AW191886, BE139146, BF854308, AC005046, AP001748, AC008569, AB023049, Z93023, AF196779, AL031681, AL157372, AC004685, AC011479, Z84487, AC005839, AC004041, AC007934, AC005412, AC011465, AC004659, AL162272, AL033529, AL031003, AF130343,</p>

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HSQDO85	405	853393	1 - 1196	15 - 1210	AI141586, AI831259, BE891960, BF792301, BE891478, AI951313, AI084681, AI963592, BG179467, BF688878, AW081301, AI302071, AA554819, BG113247, BE900489, BE875023, BE082203, AW192817, AI609638, BG114346, AW338023, BG120624, AI635303, BE675171, BF338434, AI608908, AW575097, AI872135, BF975128, AW188970, AW512257, BG104727, AI088182, AW958039, AW088530, BG108358, BE620000, BE539324, AW273444, AA557362, BF679244, BE542902, AA514414, AW173567, AA633213, BE396850, AW249839, BE622965, AI041637, BE841282, BE042599, BF665720, AW081102, BE906193, BF244720, BF687730, BE841283, AW867684, AI587299, AI859006, W07435, AI347993, AW867729, AA928679, BE841276, BE841281, AA551210, AW409682, AA552228, AI217626, AI473609, AW167077, BG120934, BF245628, AW262863, AI701498, AW513206, AW362841, AA846740, BF770777, AW009607, AI884493, AA961724, AI151313, AW250759, AA632386, BE855501, AI921174, BE295505, BE301459, AA167358, BE926769, AI628287, BG119530, BE728223, AI184800, AU147465, BE926771, BE926776, BE926780, BF087634, BF094772, BE049339, BG117572, BF220016, BE966830, AW341953, BF770092, AI709206, BF977471, AA576021, AI391626, AI963662, AI149771, AU149187, AU160741, AI609798, AI566467, AI198523, AU148534, BE163559, BE542094, AI313113, AI479697, AI159925, AA535811, W60807, AI311308, AA216530, AI524702, AA815223, C05073, AW248917, W60889, BF751526, AW780334, AW867724, AI375384, AA535094, BE926777, AA779388, AV718085, BF770771, AI127247, AA810279, AA143500, AU159700, BF092525, AA488544, N28505, BF855977, AV759827, AA666007, AI801632, AA598498, AU160394, BE875663, AI190083, AI376890, AU146319, AA156981, AI074967, AI096675, AI359864, BF770094, AA632245, AW371019, BE694531, N34310, AI300840, AI799308, AA938086, AI002929, AU159780, AI278892, BF770107, AI074974, AI734963, AI816768,

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HSQESS7	406	831222	1 - 1431	15 - 1445	<p>AL537635, AL533159, BE793778, AI741711, AA643258, BE899154, BE252229, BF982525, BF107359, BG171487, BE257494, AW964153, BF436365, BF855429, BE254101, BE561942, AI991992, AA421329, BE047648, AI660913, AI334189, BE782342, AW007375, BF856263, AI277439, AW300806, AA251504, AI984529, AI066704, AI423552, AW372765, AA502295, AA443992, AA421811, AI679806, AI346719, BE693699, H39589, AA046058, AI741098, AA515084, BG177561, W69800, AI867095, C17444, AI144141, BE559701, BF848089, AA716015, AA261868, BF087661, AA046184, AA451824, N79879, AI199125, H72381, R72233, H72502, W69930, AI687487, AI675422, BF882499, R0835Z, AA862909, AA688380, BG177735, AA327788, T09214, BE543009, AI658532, T32202, AA436471, BE646279, AA774540, H40019, AI783741, BE326703, W90277, AA330945, AI358138, AA378539, AI679229, BG177160, BE774234, AW964154, AA330639, AA436521, AW601588, BE769793, BE769785, T92294, AA279833, AW130313, AA279332, AV752862, AV745154, AA730766, W30774, AA434154, AW606038, T12573, BF734239, AA421176, AA279898, AI187705, AW603164, AI570550, AW628685, AI885012, BE151922, AI245486, AK025376, AF151850, and AC006312.</p>
HSRBE06	407	871264	1 - 1619	15 - 1633	<p>BF367785, BF367817, AI758981, BF940118, AA601674, AA469230, AL036896, AI797998, AL041375, AI090377, AI521525, AW086291, AI871973, AW970588, AA610381, AU160445, AA831426, BF828756, AU159614, AW275432, AU151751, AW020150, AA218851, AW272815, AA503307, AW500071, AI926102, AI065031, AV756663, AW963450, AU147761,</p>

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					AC005005, AC005815, Z95116, AC005971, AC004898, AC005412, AL031662, AL109923, AC011890, AL162458, AC007956, AC010412, AK026238, AL078476, AP000503, AC008392, AL139014, AC002477, AC005841, AC004081, AP001727, AC022493, AL136137, AC004659, AB023050, AL109613, Z93241, AC024947, AL121952, AL121890, AF134726, AC010458, AC011895, Z95115, AC008379, AL049692, AC010311, AL158828, AL121886, AC009516, AC006329, AC009470, AL353804, AC010422, AL031121, AC004685, AL050307, Z98941, AL049709, AL031681, AC008641, AC004985, AL158040, AC009086, AL163201, M63796, AL022316, AL358777, AL033529, AC007563, AL031432, AF168787, AC004906, AL023575, AB023049, AC008892, AC015550, Z68273, AC009506, Z98752, AC007391, AL353701, AL008706, AL133395, AL022238, Z84466, AL049795, AL133340, AL136304, AL138917, AC004491, AP000111, AP000043, AL121748, AL158159, Z98200, AL117381, AC007151, Z93020, AC003013, AC002544, AC005247, AL133448, AC005666, AL445217, AC020898, AC009247, AL022721, AL109804, AL391114, AL138688, AC011491, AC002036, AF312915, AC083861, AP001743, AF196971, AC004796, AC006483, AC005778, AL021154, AL133355, AF217403, AF228703, AJ229041, AP001443, AC007066, AL445465, AC005277, AL353680, AC003108, AC005522, AC011475, AC002558, AD000812, AP001504, AC007750, L78810, AL162615, AL132713, AC002394, AP000511, AP000553, AP001724, AC007685, AC002073, AF111168, AL356115, AC005225, and L25175.
HSSDI26	408	560722	1 - 1392	15 - 1406	BF327935, AW948943, BG026977, AV758989, N22032, F35390, AW948942, BF679169, T47172, AI537310, AA581238, AP000513, AF107885, AL023693, AL163279, AB023049, AC007191, AC005358, AC008873, AL031433, AL031431, AL132987, AC008560, AL022323, AL133244, AL021918, AC008395, Z83819, AC011311, AL137100, AL136137, AL049829, AL035457, AC007957, AL354943, AL163249, AP001714, AL121895, AL109743, AC004531, AC004605, AC009803, AP000557, AC004087, AC002990, AP001695, AC007542, AL121653, AL022345, AC011514, and AL121655.
HSSEA64	409	853395	1 - 1268	15 - 1282	BE736091, BF686547, BF237553, BE781264, BE313480, BE872070, BF313936, AI138711, BE258631, BE502126, AI348027, AA524244, AW873570, AI982983, AI367855, AW873111, AW419076, AA325647, AI052179, N90758, AW008195, AI304671, AI367495, AW964887, AI609692,

					AW025505, AI279349, AI581275, HI4110, AI224904, H29060, AA019213, AI017367, AI141287, AI241156, AA779062, AI742262, HI41440, AI262559, AI471043, AW131262, AI041676, BE856821, R60248, AA872715, AA482386, R60761, H29163, R47352, H52568, H06091, H86160, N27200, AA872384, H86771, H56455, T31006, H95225, BF968234, AA535480, AA678522, AA953998, C04826, R93546, H17526, N39943, C04344, R99865, AA738315, T31180, H69216, AA017105, AA019233, AW194286, C05015, H84704, N72695, AA057567, H95226, AI264419, W02476, AI290418, AI220672, AA001522, R49316, AA725465, H86419, T30927, AI620442, H86772, R91429, AI074855, R93547, AA985424, H95701, AA017106, AI678424, H69217, H56456, AW166317, AA326095, W57713, AA976949, AW188581, AI864069, AA057566, AA775239, AA918031, Z42112, H85105, AA977988, AA429622, AI403160, AA015626, R99866, HI4085, AI000910, Z38375, W57838, AA015625, R57558, AI262422, AI949351, AC005865, AF217967, and AC005912.
HSSEF77	410	658725	1 - 1039	15 - 1053	AL533175, AL529660, AL529659, AL533335, BG111586, BG032361, AL528013, AI452722, BE837574, AI810976, AW955455, AA887990, AV684580, BE735736, BF309824, BE906705, BF663962, AA719399, AI190326, AI491944, BF976430, AA526699, AI745517, AI291744, AI374991, BF984742, AI828575, AI147212, AI291429, AA971270, BF914316, AI681964, AA747482, AI589781, AI760672, AW973135, AI191377, AW054812, AI282167, BF448406, AI076763, AI382209, AI819092, BE314426, AI653887, AW026209, AI291350, BE144273, AI025483, AW194181, BG032936, AI125991, BE205789, AW005070, AW166142, AI479431, AW340398, AI872247, HI4119, BG120898, BF475933, AW001576, AI950052, AI038728, AA781105, AI983727, AI186987, AA635803, AA446939, AA393844, AA393826, AA041546, BE208340, AA595299, AA588205, AA968514, BE905601, AI272049, AA580350, T34621, AI445351, BE910075, AA039492, AI588901, W42714, R43919, AI095816, AA224332, AA635837, AI205639, AA308975, R88071, AI568018, AI261987, AI299347, AI346541, H19688, T67080, AA427787, AA652370, AA618584, N95318, AI133427, H20066, R60201, H19689, AW779512, AA536032, AA308974, R88422, T31859, BE140668, AI690936, BE140651, BE140664, BE140646, BE140650, BE140649, BF343597, BF726607, BE548803, AA953968, BE255716, AW576046, R88070, AA350360, AW178914, AW952572, BG010735, AA069325,

					AA532555, H52718, AW178907, BF237786, AA362297, BF932320, Z38557, AI372759, AA069378, AW178908, AW178912, AA742707, T31898, BF871214, AA535292, H19728, AI669449, T31864, AI089055, AW178911, R60434, R18809, AI192912, T29995, AA490233, BF871342, AI277302, AA425662, BF971439, AW178906, AA223799, AW973158, BF573284, T85919, AI198749, AW578878, AI336808, N75536, W23910, BF737039, AA375056, AA328758, AW407842, AW439026, AI354778, AI925482, BE394389, AW050516, AW178903, N91860, BG115873, W24575, BE778654, AI281040, W42907, AI028636, AI763001, BF572704, AW172594, AW178913, AA083263, BF093554, AA876195, AV685016, Z42333, AI955663, AA443363, BF922099, W05329, U79457, AC005041, U40825, AF001797, AX017996, and AX017855.
HSSF3E	411	742512	1 - 1224	15 - 1238	AL521314, AI521313, BE747572, BE790552, BE253933, BF976677, BE791415, BE792769, BE274394, BE796689, BE794149, BF796503, BE793203, BE794288, BE793965, BE782408, BE730602, BE796103, AI659313, BG259406, BF309144, BE795024, AW005203, BE899367, BG180536, BG166395, BF973764, BF002015, BE793448, AW005822, BE263339, AI768158, BG112962, BE783146, BE252166, BE782309, AL520006, AW409697, BE275767, BE797479, BF348188, BE336617, AW409803, AI811508, BE045964, BE408619, AA532741, BE546783, AI829864, BE251277, AA662424, AI245935, BG121848, BE798119, AA805144, BG036461, BE729203, BE208381, AI422141, AI333291, AW071219, AA989165, BE293399, N76112, AA775457, AI186332, AI075429, AI369339, AA836071, AA310550, AI765526, AW631134, AI199555, AW081404, AI440080, AI097580, AA057723, AI306438, AA261829, AI984535, BF215457, AA835895, BE560339, BF526851, AA504630, AA314685, AA506513, AA775467, AI660313, AI369337, AI333784, AW672784, AW081409, AW245674, BE791842, AW404380, AA125833, AA857593, H43541, BF804330, BF348989, AA705660, AI336830, R38335, BE547114, H43540, AA732440, AA262477, BF594600, AA917401, AA639827, BG232104, BF588468, AA329694, AA450327, BF002621, W05602, AW605466, AW406034, AA995637, AA249052, AA055082, R39418, AW630350, AI474964, AA502317, AW575850, AI277110, AI468717, BF807015, AA504727, AI380789, AA450328, BF807011, AI474540, BF811653, BF811638, AA247223, AA059437, AW604498, BF382264, AV740727,

					AV742630, AV743724, AV739194, AV742357, AV743197, AV736269, AV735704, AV740214, Z97029, and AC020934.
HSSGJ58	412	747714	1 - 1940	15 - 1954	W88633, W88532, AW270778, and R07788.
HSWBE76	413	751308	1 - 860	15 - 874	BE620901, BG170181, BE620502, BE905496, AA195064, AI674742, AU150515, BE222944, BE965160, AW071814, AU147333, AW081850, AU148556, AI433777, AA708102, AI625507, AU150042, AI333540, AI022464, AW024603, AI423210, AA195011, AA708100, AU160595, BF939994, AI365587, AI268519, AI540265, AI285640, AA252209, AA581561, AA913601, AA603763, AA009729, AA009444, AA252208, AA886783, AA724048, AW391826, AI079718, AA775594, R48504, R48503, AA427500, AW881973, BE005990, AA405752, AA430679, BE005985, AW265644, AI424413, AW275442, BF764539, BG251413, AI890866, BF899981, AV726282, AI207963, AI216407, AI797190, AA862943, AA398675, AA393321, AA599014, AI097301, AI279255, AV752744, BE349244, AU150691, AW068586, AW628679, AI003284, AW780020, BF994241, R12340, H09530, AI612829, AV649791, AW887050, W45434, AK001237, AC002539, AC002538, AF235098, AF129077, AC006117, AL357503, AC004882, AC006379, AL096770, AC005010, AL034451, AL133467, AL033529, AL031386, AC002086, AF165147, AP001727, AI139389, AC005529, AF165175, AL357150, AL163247, AC016254, AC005023, AC004456, AC009949, AL049713, AC003986, AP001671, AL096776, AC020908, AC018468, AP001670, AC006261, AC003950, AL031983, AC004987, AL135911, AP000702, AL049829, AC005701, AL442166, AC006504, AP000701, AL023875, AL163284, U95740, AL024495, AL138755, AC002480, AC005400, and AC008080.
HSXCP38	414	895392	1 - 2192	15 - 2206	BF966735, BF966299, AA628723, T27074, T09238, AV727510, AV726026, F06678, R49196, R34667, T09237, T80309, R38957, AF131827, and AL137605.
HSYBI06	415	740766	1 - 942	15 - 956	BE785517, BE787741, BG111705, BG033016, BE745842, BE542832, AL041364, BE273298, AV725539, AW957979, AV713687, AV706551, BE612687, AL046322, BF677289, BF381144, BE179216, AA573189, AA581202, BF895251, H22202, AA130055, BE393171, BF589066, AI623423, AI889612, AA147286, BE872822, BE393266, AW750358, AA301758, R15638, AI264187, T61853, AA649148, AA669816, AA374929, BE748901, AA085863, H82057, H54292, AI360690, AW081194, BF847563, AI541147, AA642174, AA864575, AA380599,

				AA806762, AI932902, AW194802, AA348055, BE783212, AA078084, AI886434, BF674805, BE378761, BF989809, BF977908, AL041450, AW804415, AW955451, BE962907, BF816723, AA551509, BF185308, AV719846, N66945, BF740940, AA601492, AA327572, BE542021, AV709064, AA593060, H56721, BF762046, BF725131, AW157326, BF574125, AA323547, R29012, AV764386, AA669961, AI082510, AI446638, AI064952, BF680940, AI291823, AA984543, BF037677, AI312790, C05755, AI039809, AI336054, BF802386, BF529775, C06327, AI355587, AW977134, AW673941, AA558145, AW327960, AW327961, AI926846, AA360260, AI689256, BG121085, AV734583, BG056233, BG059938, AA714337, AI345161, BE385456, BF995557, N43757, BG056088, AI886365, BF668079, AA450199, BF982646, AA344959, AA723017, AW580735, AI921649, AV709707, AW903691, AI376100, BF438574, AW664161, BE221335, N26276, AW074059, BF826066, AI356904, AI922654, AI564284, AI244254, BE143666, AI678392, AW274064, AW020340, W07032, BF964995, BF574109, BE276559, BF849315, BF975014, R65801, T61559, F31799, AA192337, BF084762, AA384502, BF155030, AI926366, AW971960, AW438916, Z30128, BF155049, H25562, AI547286, AW503446, BF985073, AI053465, BF700500, AL157529, AI923140, N23643, AL049795, AK000724, AL078584, AC002319, AC020663, AL356421, AL139351, AC012405, AC009530, AC004934, K02924, AL117258, AL031286, AC009510, AC000087, Z83846, AL136059, AC004168, AL049796, AC004386, AL354977, AL357519, AL161771, AC006205, Z84478, AP000298, AP000044, AP000112, AC008249, AC002985, AC005197, AC007277, Z86062, AC004019, AC022013, AC009506, AC004821, AL392106, AC005625, AL121828, AL050342, AC005005, AC007182, AL049829, AL121891, AL354696, AC002094, AL035249, AL157817, AB023052, AC006138, AP000513, AC007546, AL133355, AC005391, AL354861, AC010291, AC004253, AL034548, AL354984, M33940, AC074338, AL135818, AC006198, AC024576, AC005548, AC008394, AC007676, AC006994, AL121889, AL161629, AL161628, AC007055, AB008502, AC007011, AL138812, AL353812, AL136381, AC023347, AC005243, AJ289880, AC018801, AL353701, AC005330, AC002117, AC006409, AC005914, AC007179, AL133215, AL157837, AC005669, Z83843, AF039907, AF126403, AL096703, AL117350, AC005737,
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HTISC27	416	630647	1 - 1184	<p>15 - 1198</p> <p>AW963760, AI085450, AA380828, AA380830, AA380805, BF724739, AI249128, AA210711, BF103583, AA255722, H27102, AA643794, AW995681, AL121658, AC006974, AC005803, AC002381, AC005067, AL079340, AC003662, AL109922, AC011510, Z99572, AC004772, AL033526, AC011551, AC018738, AL133382, AL353643, AC006328, AC004967, AL031259, AC005362, AC004983, AL138836, AC012005, AL133387, Z93023, AC010553, AC003681, AL162742, AL137061, AC005015, AL137119, AL079342, X66030, AC005049, AL023805, AL158817, AC009044, Z99128, AC005200, AC083863, AC010271, AC012064, AC016395, AC005379, AC005630, AC027319, AC005366, AF196779, AP000344, AC010725, AL138787, and AF111168.</p>

HT3BF49	417	838620	1 - 2160	15 - 2174	AW450103, AI286250, H15073, H15072, AI283763, AW451893, and AL355304.
HT4FV41	418	853400	1 - 1750	15 - 1764	AL515980, BF342485, BG024242, BE392890, BF027674, BF971316, BE298983, BE793618, BF001942, BF970981, AI760358, AI936900, BF001764, AI936213, AI972421, AI660472, AI685616, BF111876, AI589580, BF438674, AI352548, AI806167, AW001510, AI700727, AA602596, AI589071, BE502182, AW515689, AA526910, AI654874, AA854945, AA464374, AI361704, AI515199, AI742777, AI936806, AA308365, AA406024, AA480282, AI669893, AA489645, AI360290, AW772255, AI360045, BF794999, AA406023, AA427779, AW009207, BE999959, R54865, AA877768, AI224523, BF000485, AI760865, AI493484, AW080629, R54856, AI652849, BF738473, AI417480, AA781143, AI123060, D61114, AA622333, BE501244, AA781079, AA489750, AW845472, AA464263, R35409, AI672795, BF588552, BE501931, AW594675, AI025454, F08867, AW340176, AA349747, AI560405, R49206, AW009575, U46337, AA515576, AA443535, AA481437, F11201, AA558995, AW274968, BE892692, BF529100, BE908581, AI479915, AW235302, AW951943, BF032318, AW167825, AI382003, AW026765, BF769982, AW438845, AA318575, AI417016, AI589752, AI679614, AW674472, BG254199, AI926919, AI630739, AW080536, AI658574, AI640408, AI085905, AI917892, R50973, AI951291, AI761329, AW198163, AI932976, AW515657, AA228848, AL515981, AI867349, BF514311, AI627215, AW770041, AI363926, BE313294, AC011547, AC005331, AL365369, AX048115, and AX040070.
HT5FX79	419	794169	1 - 668	15 - 682	AW205778, AW070424, AW304459, AA179812, AA744137, AI515754, AA581752, AW512094, AW592505, AI333545, W72985, AI276927, AW592855, BF436660, AI497761, AI278728, H50838, AA659727, AA661615, AA954986, W76184, AW276203, AI805267, AI281855, AA861191, AI243958, AA868108, AW263398, AI201343, T98950, T36047, BE070055, AI193390, D81944, AA627836, AI668988, T99001, AW439187, BF733752, AW873122, T25876, BG254345, AW591552, BF893054, AA931951, AI147322, and AK025571.
HT5GR59	420	801930	1 - 1729	15 - 1743	AI828929, AW293979, AI523779, AA936619, AW450260, AA133205, AA133189, AW368883, AI300320, AI087057, AA725865, AI242492, AA908905, AA864400, AA151624, AW075803, AA381038, AA381029, AA380752, AW075797, AI826859, AF034970, AF059583, AF030627, and AF035117.
HTAEI78	421	637684	1 - 1609	15 - 1623	AA648547, AF137334, AJ242015, and AJ242014.

HTDAA78	422	566861	1 - 811	15 - 825	AV647189, AA326049, AL038602, AL036785, AA370470, F13152, AA350749, BE242772, AW672833, BE969897, AW962768, AU135142, BF701130, AU139947, BE893974, AI752229, AU136362, AU134961, AU139203, AL516351, BF182676, AU134839, AU118483, AU139729, AU140089, AU137541, AU135872, AU120600, AU117568, AU141398, AA095436, BF691608, AU121384, AL519083, BG114606, BG180075, AU116841, BE564255, C14161, AU137009, AW402207, AU120665, AU134088, AU135815, AW401697, BF795970, BG253254, BF130890, AU128710, BE276857, AW402905, AV742153, AA442195, AU135249, AU139670, AU134411, AU135522, BG177368, BE882210, AL537107, AU138561, AL035786, BF903145, AI752757, BF725287, AU134816, AA295005, BE896797, BF792619, AA376087, BE565863, BF106248, BF382779, BG169843, BE882021, BF795672, BE897424, AU140036, BF217892, AV702812, T19262, BF103674, W07391, BG167199, BG121253, Z42435, BF795574, BE730523, BE782289, BE885306, BF208276, BE961165, BE960840, D81404, AA093867, T83204, N55664, AA155940, AU076513, AW836346, AA319776, R98163, BF901489, BF352223, AL137800, AF006088, and AF017807.
HTEAG62	423	812332	1 - 2207	15 - 2221	AA789205, AI077497, AL138197, AI670821, AW628925, BE176789, BF679705, AW117287, AW958637, BE176843, AW369323, W37916, AA608906, AA827227, AA600253, AI160796, AA724269, AA278680, AA292636, AI990171, AA421368, AA421286, AA844108, AA292637, AA768446, W37874, AV692981, AA917528, AA278688, AA303058, AA625767, BE176924, AA382777, BF063207, BE176960, AI972100, BE245143, AA298808, AW316905, H47785, BE299050, BE245089, AA625768, BE843867, BE843864, and AF117210.
HTECB02	424	806305	1 - 1648	15 - 1662	BE379373, BG031015, AW149498, AL044040, BG031282, BE857201, BF726235, BF364900, AW959703, AI553977, BF928562, AW612861, BF000820, BF058081, AI817068, AA613730, AI022220, BE830386, AA431887, AI961535, W88594, F25178, AA838686, AI672702, AI333482, AI923896, AA402952, F36762, BE837829, BE717758, W78098, AI400106, AV660436, BE837766, AA535716, BF057504, BE837678, BF928572, BE830460, AA993708, AW027743, BE717863, R78236, AA085673, AA196288, BE837630, BE717820, BE717802, AW237368, F36061, BE837626, BF726105, F29210, W89094, T23988, AI263573, W79153, AI830608, T33297, AI914597, AA857862, AA262845,

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HTECC15	425	866488	1 - 2041	15 - 2055	AU142666, AW379048, BG111973, BE787088, AW963370, BG176906, BE731111, BE148072, AI223407, AA885055, BF830660, AI929146, AA846712, BF796356, AW572884, AL079676, AW451579, BG168604, R56489, BF700682, F12990, H06129, AA081721, AI341434, AW590436, AA349198, AW956469, AA379446, BE019589, BG258059, D81963, AL526626, H18214, AL526602, D80959, AI306688, BF953139, AW674481, AW362461, H38554, N95702, AW380978, D87459, AF134303, and AF290877.
HTEDF18	426	635528	1 - 815	15 - 829	AW450360, AI637611, AW294094, AA904565, AW473631, AW590318, AI286215, AW340741, AI204174, AI798163, AI206959, BE674414, AA974998, AI917773, AW070966, AI382098, AW196424, AA991836, AA382288, AA435797, AW269924, AI425042, AA625664, AI201112, AA912148, AW183725, and U92992.
HTEDJ28	427	762845	1 - 1233	15 - 1247	BE677232, BF061401, AW292792, AI581168, AA877125, AW440444, BE349436, AA071509, AA868903, BF732240, BF940844, AI921783, AI342109, AI088444, AI969667, AI144786, AI743896, BG057687, AI264619, AI160612, AW613291, AA071344, AI146005, AI026905, AA609802, AA010635, AA236218, W47649, AI149858, AW103817, AA548757, AL046684, AI215128, AI131520, N25329, AI005190, AI301854, AI244936, AI186155, AI935066, N23317, AA732795, AW148863, AI224009, AA694553, AI382106, W69782, AI078650, AA769526, AA969431, AI282266, C06495, AW592247, AA234139, AL527621, AW390160, AA083834, AA864608, BG168896, AI491973, AA211121, AI797758, AI339980, BE348868, AA707519, AA442229, N45501, N78901, AI139186, W05352, AI144536, AA442894, AA961494, AI074988, AI246446, AI392658, AW183376, AA768697, F33077, AA484612, AA452819, AI130902, AI352222, AA506594, AI517938, T65403, AW377143, AA045703, AA977428,

					AA431202, R60581, AL518014, AA702219, AW886890, AA056459, AI239789, AW295723, BE005894, AI537842, N21105, N90303, F09614, AI092082, T27964, AW021757, BE673087, D55099, AV702429, R46091, R43333, AA669902, N72031, AA280650, AI818000, AI254234, BE825634, W44412, BE833373, AW884539, AI538078, N80058, AA722648, AI674250, R43151, BF447167, BF222134, AA524771, AW518792, AI799830, AA836174, AI658972, AA725477, W19473, AW392973, AA431526, W47648, AW869322, AA282028, AI718283, W45674, N99484, BF820635, H94760, AI359395, AR077272, L10413, and AI138680.
HTEDS12	428	838621	1 - 1573	15 - 1587	AW294995, BF222708, AF012389, AL042716, BE549952, AW183456, AI198831, AL079750, AI215941, AI383457, AI147363, AW590245, BE551617, AI656008, AW274940, AI824911, AI634081, AI015007, AW273738, BF980036, AW297114, BF980309, AA883424, and AB050260.
HTEED26	429	762846	1 - 2165	15 - 2179	
HTEED26	430	753425	1 - 2153	15 - 2167	
HTEEF26	431	789606	1 - 1001	15 - 1015	AL532273, BE798143, BE799576, BE799205, BE744642, BF981471, BF965619, AU122163, BG250643, BE618090, BE798861, AU133515, BE271977, AW026449, AW961324, AA503549, AI127746, AI857656, BG120363, AA992599, AI095033, AV738369, AA635176, AA826399, AA631375, AW513797, AA872323, AW079855, AA373024, AA432393, AA431719, AL534237, F31544, AA362778, BF572211, AW797087, AA035646, AW075535, BF791432, AA076684, AI351830, AA303611, BE844046, AI942243, AW381507, AI872998, AA484183, AK024179, AK023287, AC006329, and AL157469.
HTEEF26	432	879704	1 - 1259	15 - 1273	AL532273, BE798143, BE799576, BE799205, BE744642, BF981471, BF965619, AU122163, BG250643, BE618090, BE798861, AU133515, BE271977, AW026449, AW961324, AA503549, AA992599, AI127746, AI857656, BG120363, AI095033, AA635176, AV738369, AA826399, AA631375, AW513797, AA872323, AW079855, AA373024, AA432393, AA431719, AL534237, F31544, AA362778, BF572211, AW797087, AI004788, AA035646, AW075535, BF791432, AA076684, AI351830, AA303611, BE844046, AI942243, AW381507, BE045227, AI872998, AA484183, AU154803, AK024179, AK023287, AL157469, and AC006329.
HTEEW69	433	764835	1 - 1268	15 - 1282	BE253978, BE254398, BE781341, BE255799, BE780436, BE780457, BE255033, BE251940, BE257706, BE780314, BE783528, BE255909, AA887084, AW172618, BE253356, BE257391, BE257100, AA913157, BE252558,

				BE256521, BE618088, BE258350, BE253421, BE251745, BE252959, AI184620, AI024872, AI581295, AI024850, BE256106, BE778121, AA062589, BE255962, AA938866, BE251245, BE259105, AA953444, BE258660, TI9332, AI351056, AA700997, BE251072, BE259435, AA063062, AI016246, AA406443, AA994466, T36111, AI017555, AW025700, AA364302, BE259217, AA729497, BE255046, AW966401, U25928, BE251141, AA410460, AA776786, AV702417, AV695700, AV729376, AW950211, AV703687, AV706417, AV709092, AV686100, AV696754, AW952007, AW956891, AW964251, AW960655, AV728652, AV705299, AV705340, AV702296, AV726787, AW951270, AV729076, AV702998, AW962386, AW949478, AV725153, AV651897, AW962978, AW950443, AV703790, AW960601, AW952403, AW952183, AW959806, AV656903, AV661704, AW952751, AV697196, AW956075, AV645936, AV709587, AW955723, AV705135, AV658084, AW959980, AV650283, AV692600, AV650315, AW963768, AV659389, AV650591, AV697880, AV727613, AV656373, AV726010, AW964440, AV655280, AV660258, AV708109, AW959521, AV647789, AW956474, AV659294, AV727787, AV650691, AV703146, AV686060, AV725745, AV686064, AW951239, AV660608, AV728148, AV659322, AV726156, AV650768, AV654908, AV726590, AV698545, AV656478, AW959988, AV709314, AV653353, AV708381, AV654070, AV660728, AW951437, AV691080, AW951281, AV702385, AV658275, AW949802, AV652001, AV651955, AW955662, AV707979, AV703669, AV709580, AV727003, AV725208, AV685536, AV725582, AV708786, AW957517, AV659547, AW959543, AV727526, AV703169, AV725618, AV651920, AW954439, AV727510, AV725633, AV725031, AV728518, AV702266, AV725577, AV725033, AV706223, AV728924, AV725617, AW954206, AW960207, AW955900, AV707863, AV725991, AV696931, AW964421, AW952410, AV703062, AV727822, AV699089, AW964410, AV701874, AW950888, AV703501, AW962444, AW964409, AW964585, AW953574, AV702772, AV704774, AW952460, AW955710, AW954237, AV701180, AV651519, AV707401, AV701183, AV658751, AV683669,
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HTEGS07	434	827700	1 - 792	15 - 806	AI359511, AA192224, AI862569, AI131408, AI377336, AI343749, AA977581, F22607, AI823942, AA086413, F29726, F27447, AI141522, F01251, F25584, F36724, F00415, AA192790, AW966053, AW975618, AV724520, AV738928, AV718692, AV718489, AW949645, D59275, AW966041, AV699550, AW964468, AW966062, C14389, AW973541, AW978634, AW966531, C14331, D51423, D80195, D58283, AW975621, AV722801, AV719783, AV719188, AV723927, AV720464, D80227, D80038, AV699927, AV718800, AW959570, AW965158, D59619, D80253, T03269, D80210, D51799, D80391, D80240, AV719822, AV719468, AV720203, AW973307, AW966022, AV719324, AW959628, D80193, D80196, D80188, D81030, AV699447, AV720211, AV718844, AV719557, AV718770, AV720731, AV701123, D59927, AV720812, D80219, AW949642, D80212, AW949656, AW966534, D80166, D80269, AW966054, AV720028, AV720791, AW960465, D80366, AW965185, AW965197, AW949657, AW959799, AW949629, AV718440, AW949641, AV701443, D59889, AW960553, AW949632, AW949631, AW949643, AV742001, AW949654, AV723097, AW973445, AW973447, D59859, AV744690, AW949633, AW966013, AV721386, D80164, AW965175, AV978648, AW958993, D59467, AV699479, AW966029, AW973334, AW966050, AW966065, D59502, AW959597, AW177440, AW975605, AV718707, AW959062, AW964477, AV741221, AV741220, AW965177, AW964737, D80022, AW978661, AW973474, AW959202, AW753067, C15076, AV700889, AW965163, AV720654, AW964756, D80043, D59787, AW966075, AV718938, AW964488, AV701428, AV718633, AW973485, AW965184, AW973488, AV718931, AW960414, AW973482, AW958992, AW959136, AW956434, AW965176, AW962082, D80024, AW966330, D50979, D57483, AW959582,

					AW966059, AW975613, AV720878, AV701004, AA305578, C75259, AW960473, AW949646, AW949658, AW965196, AV699682, D80045, AA305409, D80378, D50995, AW962245, AV718908, AW973330, AV700229, AW956397, AW949653, AW949618, AW949655, D59610, AV742667, AV745080, AV699669, F13647, AV701125, D80134, AV701335, AV701166, AV701043, AV701332, AW960532, AV701017, AV701248, AV753053, AV701431, AW966023, AW960454, D51060, AW966030, AW966043, AV699866, AV699497, D81026, D80268, AW959469, AW960504, AW960564, AV718530, D80241, AV738340, AV699746, AW966032, AW960514, AV701419, A62298, A84916, AX047063, A62300, AX033851, AX047064, AR070327, AR018138, AX047062, AX027925, Y17188, AJ132110, AJ302649, A82595, AR087649, AX020191, X67155, A67220, AX021518, AX020190, X82626, A78862, AB028859, D26022, AX035434, AF058696, A25909, AR008278, D89785, D34614, X68127, AR016808, D88547, AX028130, AR077702, AR025207, Y12724, AR060385, Y17187, A94995, AB002449, AF260572, AR008443, A30438, AR074545, AB012117, I50126, AX015396, I50132, I50128, I50133, AR008277, AR008281, AJ287395, AR066488, AR016514, A85396, AR074141, AR066482, A44171, AX042372, AR060138, A45456, AR088705, A26615, AR052274, Z82022, X64588, A85477, I19525, A86792, U46128, I14842, AR016691, AR016690, AR074139, Y09669, X93549, A43192, A43190, AR038669, AR054175, I79511, AR066487, AR074136, I18367, A63261, D50010, AR091537, D88507, A70867, AR062872, AR093385, AR008408, A64136, A68321, AR060133, D13509, AR060382, AJ000347, and AF123263.
HTEGS11	435	862066	1 - 967	15 - 981	AW952408, BF515910, AI050882, AI480168, AU145127, N91683, AI192791, AI081899, AI803941, BE392706, AI393213, AA099586, AI191838, AA676738, N78729, N68666, AI350723, AA732986, AA262428, AA099646, AI150839, AI093061, AA975573, AI579916, AW264066, W16629, T87512, N53243, N48045, N68676, AW204358, AI418594, AW614058, R94877, N91693, AA608995, R94878, AW058013, AA777468, H89267, H89266, T87511, AA612985, R40824, BE046013, H89265, AA551022, T73590, H89268, BF090929, AI934043, AA327696, AI424222, N55926, N54006, AU118611, AC018762, AB020647, and AK021671.
HTEHA56	436	806461	1 - 1388	15 - 1402	AL534825, BF966655, BF220011, AW156875, AI288798, AI983649, BF194886, AU148467, AI983228, AI949855, BE858463, AU158916, AV751641, AU151009,

					BE670426, AI198922, AI084858, AA975273, AA826390, BE467257, AW369907, AI419391, BE467571, AA161209, AI369446, AU152769, AW474249, AI702643, AI085602, BG142258, AW471257, AW090631, W26589, AI085983, AI934186, AW338324, AI798753, AA772100, AW956493, AV654106, AI269061, AI497580, AW079989, AV746621, BF890701, BE696848, BG056286, AI155631, AI368950, AA702289, AV728848, H45328, AI735233, BE832305, AU159447, AI042204, AI378413, BE327413, BF367422, AI363351, BF940478, AW467982, R62990, AI654974, AA086226, AI090507, AA112992, AW150346, D61140, AI421781, AW052148, W32560, H15253, AI076859, R63046, AI436265, AA757678, H13533, AA927548, AI651723, BE672226, H12421, AW197530, R68712, F34298, H45260, AI671255, AI935399, C15812, R43616, BF448890, H12422, AI367015, W32679, AW001843, AW966063, BF477771, AL537788, AA377846, BE328367, AI096595, AI077629, AA482578, AI690355, R68660, AW128862, AA654380, AW411298, AA299000, BF352133, H13534, BF352130, AW268127, AA365873, R39217, AA587492, BF941068, D31426, BE245264, BF335432, AL157426, AK022957, AL049448, and AA159113.
HTEHU59	437	840385	1 - 1509	15 - 1523	BG249175, AL046260, AW963943, AI828967, AW955696, AI760208, AW297718, AI032354, AA417102, AL121147, AA806454, BF216179, AW514160, AA417206, W73366, N39447, N75616, N22370, W73427, N65972, AI370121, AI440453, C16433, AW470432, N98313, AW204089, AA444140, AL046261, H06227, AI796882, AA443958, AW789252, AI221678, AA716720, AW439530, AW873326, AI143241, N35303, AW613664, AA887889, AA845989, AW665345, BE218168, AI333474, AI333483, AI361785, BE464766, BE326250, AI680844, AA936826, BE348681, N94234, T90568, AI693650, AI971432, AI864735, R32990, AA379582, R40841, AA037360, R79419, AA364460, AW502585, T26572, BF248365, R79420, AA765052, BE763303, AV710415, AW137034, BF916703, N48559, BE504072, AW500077, AA663027, H38490, BE545425, AA953152, AI963960, BE907434, X74628, AL049814, and AL137010.
HTEJD29	438	695798	1 - 1310	15 - 1324	BE671326.
HTEKM46	439	862069	1 - 2102	15 - 2116	AI207971, AI205594, AA682764, and AA682743.
HTEMQ17	440	840387	1 - 1754	15 - 1768	BG255431, AW365828, BF031371, AW365643, BF107518, BF211270, AL530660, AL120983, AW365846, BE141392, AI276663, BG121604, BF857983, AW365821, AW197389, BE141378,

					AW504995, BE141375, AV713095, BF811334, BE885456, A1683415, AA758267, AA332445, BF095659, BE152545, AA298292, BF695980, BE152546, AA319133, BE152543, AL040847, AA337156, and Z69890.
HTENR63	441	877952	1 - 1577	15 - 1591	<p>AL514834, AL519774, AL519775, AV718320, BG250554, BF977554, BE789757, AV756237, BF671459, BG106414, AV715861, BF572599, BG057663, BF217559, AV749968, AI077492, BF184114, AW967760, AA846408, AA459210, AA903217, AI347959, AI582241, AW971593, AI278012, AA100876, AI074700, AI298343, AI074060, AI311669, BF238802, BG119710, AA406286, AI033923, AA724520, AI763007, AI740717, AA128558, AI379680, AA004836, AA833531, AI278000, AI439855, AI400336, AI290630, AA634213, AW150186, BE568250, AA421978, AA128559, AI374862, N25943, N77531, AI023705, N57673, AI056028, H15660, AI353324, AW959305, H81498, R43996, AI350653, AI373175, AV658593, AA814728, AA662834, AA081891, AW955532, H19112, H19113, AV756519, AV733082, W05362, N99540, W31289, AV758671, AI247545, H47163, AI248038, W07017, H47079, Z42635, H52184, N80057, Z40369, AI279669, F02139, BF724942, AA252585, T34459, H52183, F01223, AA004960, F01768, H01616, AA463663, N77397, BE001644, Z44438, N71498, BF590848, H01510, AA082578, N39281, Z28427, AW511477, AA252535, AI378080, F05502, BG169062, AW023590, AW983703, AW983691, BG105812, BG120816, BG026746, BG031815, AL079963, BG179993, AI491852, BF816037, BG029053, AL045774, AI923989, BG121959, AI698391, AV757996, BF343205, BF344652, AW198075, AI815855, BG029829, AV756560, BF793176, BF885081, BG026447, BG110517, AI307604, BF341801, BF338002, BE789764, BF971336, BE964614, AI468872, BF344734, AI699865, BE964497, BG112718, BF970449, BG259944, BE879906, BF814527, BE047737, BG180996, AL119791, AL513907, AV682740, BF969228, AI334450, BF792961, AV733397, BG170937, AI917963, BF527014, AL514627, BF970652, AV716358, BF982767, AL041150, BF895953, AL047275, F27788, AL041772, AL039086, AI358213, BE048026, AL041220, AI802542, AW172723, AI702073, AL043975, BG058150, BG108324, BF970768, BG110946, BE047852, Z99428, AL036638, BE964603, AI537677, AV723204, AW961463, BE879612, BE886858, AL121365, BF812431, BG113188, AI345180, AV723062, AI866465, AV729934, AV714085, BG260037, BF856052, AL119863, BE965067, BG029667, AIS21012, BE910373, AV723772, AW269098, AI345148, AI632408, BF037484,</p>

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HTGGM44	442	842856	1 - 3002	15 - 3016	AW974580, BE764084, AA651951, W01997, H68969, AI459019, H70945, AA486949, T66948, T66949, AA486772, BF329143, BF108414, AW469166, AI568694, T57664, AL133623, X91617, and D88026.
HTHBZ06	443	832477	1 - 609	15 - 623	BG107523, BG180234, BF668800, AL514985, BF339863, AI400160, AI566873, BE909457, AW262875, BE906621, AW470063, AI758577, BE907206, AA777509, AV715444, AW131846, AA406614, AW087747, AI811951, AI371781, AI742506, AI337891, BE738291, AA934901, N40173, AW157527, AI742505, AI374781, AI081113, AW173107, AI379523, AV756830, AI139790, AA195689, AI801399, BG054839, AA532727, AA235284, AI087379, AI792601, AI952545, AI245243, BG026067, AI805770, AA600140, AI040546, AV703045, AI753737, AA625963, AW591860, AA159931, AA477326, AI360032, N40209, AI864174, BF197737, AA430365, AI829158, AI869836, AI955815, AI804015, BE909529, N30689, AA478600, C16344, BE906555, AI640196, AW072764, BF306291, AA905154, AA481723, AA758776, AI371005, R78607, BE783860, AA865424, AW242058, AI185821, H64413, AA302463, H64463, C16267, C15288, AV750104, H92638, AW972807, AI566669, AA302462, AI468749, AW090440, AI336687, AI934133, AW512971, BF542108, C16184, C16080, R78608, F05286, AI269595, AW800298, AA021044, C16548, AA315033, R46768, R35721, BE885010, BF870311, R25875, F02653, BF675020, AA761420, F22486, D57610, F00189, AA906821, BF028115, BF081348, AW367390, BE465797, Z24901, AW963734, C16270, AA527113, AA527036, AA373921, BE074601, AA479641, BE074603, AI680768, AW316622, AW606067, AW606056,

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HTLAP64	444	603913	1 - 1078	15 - 1092	AI940777, BF340701, AI417805, AA328338, AI143250, AI274255, AA733149, AW380716, and AC004556.
HTLBT80	445	840045	1 - 2087	15 - 2101	AL519674, AL518564, AL530114, AL524125, AL518563, AI524124, AL519673, BG119582, BE736220, BE734743, BE782619, BF795936, BG248163, BE869185, BE893350, BF435225, BE905414, BG026633, BF033083, BF970046, BE885230, BF692625, BF692541, BE892741, BE393898, BE389940, BG163906, BE313920, BE312030, AI741613, AI762578, AI241474, AI813813, AI922418, AI990378, AA018345, AW631237, AW151233, AI400794, AI420163, BE550276, AI949071, AW963076, AI922430, AA614565, AW051437, AA018346, AA612852, AI000311, AI338519, AI360869, AW613433, AI356485, AW590872, W56183, AA417581, AI214800, AI671156, AA451942, BE242648, AW390145, AA001019, R69763, AI419907, AA768838, AA482598, AI696492, AW473585, AI674961, BE868575, AI247090, H08477, AA576510, BE391031, H06603, AI018102, T56902, W56260, BF372172, AA001020, AI285366, R87304, BF928779, BG152437, AA814595, AI569050, AI239612, H06633, AI623626, R69764, AA971138, H07140, BE856299, AI357631, AI001995, AW243905, R48323, BF003017, H43938, H52166, AA026966, BF988194, W22979, BF372164, H89737, R87305, BF677308, R48432, AA347636, AW080561, AA593837, AI459770, T56903, H08759, AW750152, AA876261, AA450330, AW797547, BF508949, BE833483, BF512980, AW300516, BE076134, AA514688, AI476002, AW884714, BF992680, AI568120, AA578364, H89800, BE503792, AA344443, T77366, BF811395, AV699752, BF748071, AW367168, AA450329, BE833631, AW198236, R30662, BG115081, BG115274, AW275152, AA216315, AW821860, AA347637, AW953095, BF088397, AF132949, AL133227, Z55376, and Z55375.
HTLDA84	446	686397	1 - 1430	15 - 1444	AA449997, AV758870, AV761107, AW514006, BF589824, AW969667, AV710214, AA535216, AW969743, BF950533, AI345721, AI061313, BE049095, AW341978, AV756491, BF804385, AA829044, AV762354, AW021161,

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HTLDN29	447	790195	1 - 1360	15 - 1374	<p>BE734726, BE734830, BE735312, BG251608, BG253279, BG165055, BG169270, BE281318, BF207047, BF950640, BE278865, BE312082, BE280477, BG119824, BE541520, BE389130, BF305892, BF304866, BE745832, BE382520, AA130220, AW957631, AI813482, BE745974, BF690416, BE384803, BE735442, AI680001, AI688948, AW088301, AW024631, AA736996, BF952455, AW995515, AW957630, BG248536, AW157460, AL449678, BF952444, W06836, AI479975, AI858675, AA806263, AA837829, AA772993, AA789086, BF848199, AA457522, AA457616, AA789076, AI499388, AL449535, AW803300, AA442976, AI345769, AA487483, BF512199, AI568979, BE219106, AA045768, AI128662, AW272498, BF954891, AA984038, BF196319, AW817348, AI190872, BG251816, AI440088, AI589768, AA469177, AA071062, AA766081, AA036660, AA988339, BE504753, BE734436, R27052, AW300785, AI694582, BF055369, AI208734, AA318694, AL449677, AI424663, BF663195, AI378845, AW025514, AW401484, BF683153, AI808775, BE733134, AA374489, AL449679, AL449747, AL449745, BE902610, AA372280, AA036877, AA526162, H64472, BF939702, AL449746, BE763623, BF057587, BE733082, D30950, BE258070, AL449748, AA130141, H64423, AI200545, AA303111, BF802519, BE275218, AA760749, AI351207, AI191127, BF803734, BE383647, BF061678, BE278123, BF026194, AA811160, BF312482, BF683725, BE391281, BE730687, AI079233, BE903426,</p>

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HTLDU78	448	637702	1 - 1304	15 - 1318	AA417099, AA435761, AA417203, BF748721, AA972917, AI660387, BF748720, and AC011444.
HTLEC82	449	811992	1 - 1246	15 - 1260	BF690531, AW957407, AI110596, BF313527, BF699880, AA813247, BF374361, AA557376, AW250076, BF341941, AI393282, AI089657, AA490235, AW402303, AW167542, AI439663, AI143182, AA284802, AW408401, BE903749, AA534702, AI830706, AI982882, AI357897, AI089649, AW027115, AI283129, C14798, AW197008, AA278446, BE205758, T89683, AI141555, BE265232, AA452242, AI094393, BF436403, AA741019, BE048000, AW513429, AA554624, AI223106, AA609055, AI352210, N51261, AI937619, AA994838, AW057815, H46646, AA436832, AA812466, AA829509, AI888401, W25101, BE645985, R76143, AA533805, N62148, AA442589, N62587, AI191670, AI024057, AI208842, AA425231, W47669, AA973360, AI005531, AA147625, AA312497, BF931194, AA284193, AA282719, R88080, BE068257, BF773465, AI017552, BE068258, AW401923, AA281172, AW291230, AI041089, BE068260, BE501221, AA046265, AW402988, R69950, D60855, AA350388, BE185595, H56984, AI423618, R76093, AA355145, H45795, AA490794, N78524, AA377558, AA363394, H45900, N79277, T53769, R69894, AA464226, T54161, AA766756, D60854, H56897, AI452575, AA382947, H45796, H13787, H13788, N73681, R24680, AA490748, AA149482, AI570301, AI902621, AI863788, AI337267, AA340607, AA367545, AI699566, BE151220, AI652874, AW364076, N80360, AA903776, BF806854, AA503890, AA366038, AA864859, BF972332, AA262577, D60159, AW957364, BF956578, AA046344, H22565, AA215532, BF116145, BE047979, W21166, BF082468, BG011590, BF339491, BG034561, BF127933, BG015229, BF116079, AA147663, N40470, BF196310, BG015636, AW043798, BG260736, AW838917, BF819768,

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HTLEM16	450	779133	1 - 1901	15 - 1915	AL537268, AL524867, AL521379, AL524655, AL521380, AL520082, AL528768, AL513950, AL527410, AL532992, AL518562, AL526411, AL520081, AL524866, AL527368, AL518561, BF793507, BE293505, BE797874, BF966727, BF793437, BE293461, BF688814, BF690146, BF966760, BF340717, BF663834, AI524654, AA781166, BF342274, BG179677, BF570071, BF663178, AL537267, BF690560, BE903323, AV728729, BF340891, BF528974, BE257966, BE278858, BF515895, AW964631, BE297161, BF968582, BF026117, BE733780, BE280977, BF724855, BE312997, AA641020, BF529180, AL519567, BE279987, BF344151, BE255018, BE390139, BF701583, BF688333, BF966530, BF345769, BE302964, BF345255, BF569584, BF206038, BE249931, BF026959, BF966315, BE257931, BE730892, BF061136, AA621730, BF058285, BE900610, AL526371, BF347440, BE302621, AW131766, BF529014, BF984577, AI803361, BF439974, BF527493, BF967158, AI708896, BE900258, AW131694, W21824, BE408464, BE563677, BE251526, BG024544, BE780162, BE257745, BE892373, BE727832, BE727561, AW026308, BG035433, AL513949, BE731124, BE896130, BE276768, BE385541, BF240238, BF984799, BF689920, BE390488, BE778942, BF084737, BF965298, BE905202, AA640946, BE383842, BF724132, BG024277, AI279215, BF529777, BE314506, AW167695, BE407700, AW027751, BE904285, BE384005, BF027626, BG031193, BG106859, BF725279, AA044161, BG025646, BG119068, BF346642, BF027086, AL134384, AI299018, BE281345, AA908781, AA496423, H38040, AI095564, BE906042, BF026948, BE408496, BF528680, AI338106, W22099, BF111929,

					BF689664, AA086051, AI138962, AI815598, BE895892, AA921766, AA809477, BF851430, N95209, AA402419, BE302043, BF026902, AA284506, BF446741, BE547438, BG056414, AA761749, AW152609, AA679123, AA526535, N78612, AA809563, W27812, AA903910, D52750, H41405, C15929, BG104603, N70493, H15374, H15378, AI033087, BE764253, BF670047, AV648334, AI871263, T33274, R44660, AW513845, AA044069, BG059536, BE350072, AW166762, BE207476, AW262785, AA961219, AW190491, T30636, AW195111, AV723609, BE731711, W04862, BF203872, BE207570, H73593, AA527956, H41532, AI813904, BF340463, BF984596, BE249854, AW873291, AA976134, BE870399, R59073, AI301136, R59953, BF724545, BF434606, AI341591, BF795344, Z43745, AW006965, AI539828, AI620455, R71196, AA262408, H38431, AA746078, BE300768, AA768657, AA287226, H39122, AI688746, R59074, AW968070, AI221081, H45573, BG036289, BF732285, R89743, R52105, R89524, AW192972, H39109, F21878, R55125, AA054051, F35396, H73136, R89515, H27036, H30800, AI049981, U79458, U40826, A75464, T71990, T72134, R13336, R13361, R14291, R19855, R20564, R23528, R23850, R38051, R38140, R40239, R40806, R40877, R46066, R52202, R40239, R46066, R40806, R40877, R55172, R59952, R71197, R74550, H00920, H00921, H06038, H13371, H14229, H14228, H15379, H15734, H15735, H20187, H20378, H22730, H24012, H25024, H25025, H27124, H41316, H39140, H45048, H45083, H46906, H46907, R84647, R85533, R86285, R86864, R87472, R87473, R88512, R89742, R89818, H50796, H51181, H51561, H51928, H52028, H54799, H54852, H73819, H74228, H80914, H80915, N51908, N64691, N70497, N91704, W25242, AA086140, AA115567, and AA115088.
HTLEV48	451	723799	1 - 1056	15 - 1070	BG113122, BE246780, F21473, Z18867, T48103, BE246456, F27546, and AL079300.
HTLFA13	452	535937	1 - 1146	15 - 1160	AA599080, AC007999, AC018758, AF168787, U91321, AC002091, AC004765, AL031427, AF111168, AC005911, AC005783, AC010150, AL121585, AL049795, AC005829, AL049776, AC007030, AL096700, AC002352, AC008011, AL158830, AC006130, AL139329, AL136137, AL022315, Z85996, AP001752, AC006449, Y18000, AC005056, AC006211, U95742, AL117381, AC008162, AC022392, AL050335, AC005095, AL121601, AC005531, AC004491, AL049780, AL035704, AC010422, AC018812, AC007707, AC018644, AC008806, AL023583, AL031985, AC018663,

					AC005529, AF190464, AC087095, AC011452, AC025264, AP000289, AC005005, AP000042, AP000110, AJ003147, AL133396, AL020997, U89335, AL137797, AC011484, AP000689, AP001716, AC005189, AC009955, AL031727, AC005844, AC008126, AC003037, AC035150, and L44140.
HTLFI73	453	846063	1 - 1145	15 - 1159	AW966389, AI535686, AV702035, AW964468, AW966330, AW975618, AW964541, AV724520, AV705869, AV706147, AW949645, AA809122, C14331, AV727418, C14344, AV718692, AW964532, C14407, AV719468, AV718800, AW973541, AV718489, AW960465, AW949646, AW966054, AW960553, AV704548, AV719783, D31458, AV720464, D80038, AW962395, D51221, AV655880, AV700086, D58283, D59503, AW952839, D59502, AV700889, AW949641, AW949634, D59551, AW965185, AW965197, AV699550, AW956413, AW975621, AV720104, D80164, AW973488, AW949654, AW966043, D80133, AW959799, C06015, C14014, AW966380, AW965158, AW966062, C15076, D81026, AV721386, D80258, AV719822, AW952852, AW966050, AW966013, AW960454, AW966400, D80195, AV720150, AV723097, AW949658, D51022, D80045, AV694084, AV689813, AW966332, AW966053, D52291, D59627, AV699927, AW966030, AV719632, AV718487, AW966378, AW949633, AV720151, D50979, AW966333, AW959570, AW966041, AW966399, D51060, D80247, D59275, AW966022, Z21582, AW960520, AW973330, AA305578, AW966534, AV700622, AW965163, D59317, D80269, AA305409, AV718931, AW960483, AW978648, D59467, D57483, AV720791, AV719188, D80227, AW959597, AV719913, AW965175, D59695, AV700229, AW966377, AW965153, AW959062, AW964477, AW949500, AW975613, AW949586, D51799, C14389, H67866, AW966531, AW978634, D58246, D81111, AW964488, AV707001, AA514186, AW973307, H67854, AW966075, AW966065, AV696294, D80022, D80024, D80439, AV692290, AW973445, D81030, T03116, D80196, C14227, AV701004, F13647, D80391, C03092, D80157, D59787, AW960534, AW966343, AW966029, AW961136, AW965196, AW965184, AI557774, D80166, D80212, AW973334, D80193, AW949629, AW949630, AW949632, AW966369, D80251, D59619, AW973490, T11417, AW978661, D80210, D80240, D80219, AV719945, AW959627, AW975623, AW973447, AV719324, AW966059, AV691387, D80064, AV684481, D59859, AW966342, AW950578, AI557751,

					AV720211, AW966368, AV718844, AV718770, D80014, AW973474, D80268, AW973473, D80366, AW966397, AW973465, AW960514, AW949498, AV723927, D59889, AW960474, C14973, AV699866, AW966385, AW949653, AW949656, D80188, D80302, AW949631, D51423, AW949643, AW949618, AW949642, AW949655, AW966388, D80253, AV701839, AV720203, AV719391, AW964756, D80043, D80522, AV718440, AV718938, A82595, AR070327, A84916, A62300, A62298, AX047063, AX047064, AR018138, AR016808, AX033851, AB028859, AR087649, AJ132110, AR060385, AX014811, AR008277, AR008281, AB002449, I14842, AR054175, AX027925, I79511, AR008278, AF058696, Z82022, AR077702, A63887, AR092424, AR091537, AX021518, and AR060382.
HTLGI89	454	835069	1 - 2363	15 - 2377	AL527649, AL521837, AL521838, AL526812, AL522637, AL516967, BE796246, AL516968, BE733427, AW953470, BE267273, BF984794, BF663431, BE746021, BE744871, BE727677, BE792949, BE891911, BG032127, BE732800, BE880158, BG029699, BF739970, BE547454, BF033906, BF341854, BE410292, BE407731, BF974054, BE730406, BE280141, BE276759, BE396111, BG033296, BE313127, BE266155, BE276474, AW245780, AW245421, BF726872, BG259961, AW170348, AA54052, BE387107, AI125210, BF888054, AW960189, BF109831, BE883630, BE207211, BG024467, AW403899, BF894254, AA789053, AI208601, BF432565, AA031930, AA032048, AI024666, W07699, AW615502, BE296793, AI001138, AI200867, AI356072, AA622587, AA632148, AA934612, AI369198, AI570447, AA846843, AA758922, BF907531, AI332639, BE276249, BE386995, BE795828, AW271396, AI095065, AI208972, N62476, C06239, AA864754, AI278658, AA431596, AA676722, AW402977, AA099581, BF888062, AI125001, AA609502, BE901965, BE901394, BE797702, BF110024, BE902040, R87506, AI570705, AA847774, AA062669, AI283903, H80426, AI493468, AA351375, AA766390, AA621386, AI141193, AA468656, AL522636, AW960190, AW387425, AA813039, BE733825, H24175, AA361930, AI862627, AA305197, R98946, BE304538, AA975165, N80670, BE019577, AA644232, BE736900, AI034164, AW245820, R23321, AI245639, R78483, BE265415, AW375225, BE266374, BE280632, AA137081, BE733565, BE901113, AW955959, AW375213, BE267493, AW375220, BE539912, R23244, BE733342, N79196, T16377, T09166, BE799665, BG222879, M85399, R98861, AW080224, AA628355, W73606, AI763081, N50148,

				AI721021, AW089049, AA226886, AW615653, BE464923, AW089305, AI004405, R87588, T04952, R10049, AW078905, AW083608, H17382, BG223318, AA811085, AI245727, AA380030, R78526, H80425, AA226922, AW371367, AW732928, BF931203, R10928, AA136972, AW377690, AW374893, BE841909, R10879, AA353058, AW374895, AA995577, AI001882, AI015767, AW363526, AA377815, H24067, BG223317, BF931143, BE827975, AA557715, BG122019, AV747893, AA862807, T09167, AW771700, AI338369, AI808072, AA453634, AA100486, BF987667, BF931921, AA774221, BG059802, BE539623, AA101981, AA884482, R16694, BF887393, AW749084, BF338616, AA768482, AW473754, AW198229, AA357596, AA379498, AX015349, M62419, AF020797, AK023863, AX013089, AF067146, AF139409, AX015425, AF139395, AF116682, AF225424, AF090900, AK026865, AL133640, I48979, A08916, I89947, AK025084, I48978, AF116631, AL122093, A08913, A08910, AK026532, AK024538, AJ238278, AF116646, AL359601, Y11254, AK000137, AF116644, AF106862, X82434, A93016, I89931, AK025092, AL050149, AL122121, S78214, AR087170, AX006092, AF113019, AR011880, AF119909, AF130075, AL137527, AF104032, AF113690, AF119899, AF091084, S68736, AL359615, AB019565, AF090901, AL122050, AL133560, AF090934, AK027096, AL359618, AL162006, AF177401, AL442082, AF130104, AK026542, AL133606, AF113013, AL049314, AK000083, AB052200, AF130059, AL117460, AK026452, AL359941, AL162083, E03348, AK000445, AK026045, AB048954, AF116602, AF125948, AK026592, U72620, AB051158, AB048953, X84990, AF113677, AB047904, A65341, AL133080, AF218014, AK026959, Z82022, AL133075, AF116691, AF113694, AF097996, AL137459, AJ242859, U00763, AL117435, AL049452, AF116688, AL137550, AF090943, AL050277, AF118070, AL110196, E02349, AF111851, AK026741, AF130105, AF017152, AF242189, AF090903, AF130082, AL157431, AF078844, AF017437, AF113689, AJ000937, AK025339, AK026608, AL359596, AL110221, AL117457, AK026534, AL050116, AF113676, AL353940, AF090896, AL049464, AF113699, AF119875, AL389978, Y11587, AF119878, AK026784, AL080124, AK000618, AL050108, AK026533, AB041801, A08909, AK026744, E07108, AL133016, AL137557, AF219137, AL049466, AF314091, AK000652, AX019230, AK026504, Y16645, AF116639, AF113691, AR059958, AL050146, AL050393, AL122123, AK027113, AX046603, U42766,
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					<p>AB047615, AK025491, AL117585, AF125949, AB049758, L31396, AF111847, AL442072, AL117394, L31397, X63574, AK026855, AK026647, AF177336, AK025772, AF138861, AF146568, AL389982, AX026824, AX026823, A58524, A58523, AL137283, AK026583, AL117583, AF130092, AF116649, AR079032, AL133565, AL080060, AX019229, AL133557, AF130099, AL096744, AF079765, AL133093, AK025414, AF207829, AK000212, AL390167, AF158248, A03736, AK024524, AL049300, AF118094, AF118064, AL049938, AB048964, AK000432, AK025958, AK027204, AL110225, AL080137, U91329, E07361, AK025967, AL049382, AF183393, AK026353, AL050138, AF119894, AK026086, AK027213, AK026927, AL359583, X65873, U35846, AK025391, AF119871, AL122098, AK000323, AL133113, AK000614, AB052191, and AF130066.</p>
HTLIF11	455	843506	1 - 1954	15 - 1968	<p>AL535454, AI632488, AL535453, BF342534, BF530040, BF690049, BF346698, AA974141, BF364819, AI866588, AI280727, BE676484, AI611040, AI097297, AW450278, AI570627, AA738091, R15136, AI400717, R34541, R15361, R49039, BF846123, R88969, AW050762, H30247, AA934557, AW025653, BF935625, Z41611, BF352776, AA719603, H26992, AI479775, N74336, AI570966, AI859464, AI612015, AL045349, BE621256, AI690748, BG110684, AI612014, N50081, AI287326, AI565172, AI624293, AI249877, BF339322, AI439801, AI433611, AW409775, BF814516, AI684127, AI689420, AL037582, AL037602, BE393551, BE910384, BF061283, AI628325, AV750565, BG113299, BG111560, BF734768, AI520809, AI922550, AI886594, AA806719, AW411235, AI494201, AI114703, AV710937, BF751997, AW193467, AA761557, AI564749, AI699011, AW163834, AI623622, AI865320, AV692345, BF814449, AW827289, AI285439, AW071349, AI355779, AW025279, BF793891, AI620075, AI744988, BE543089, AL040241, AV686060, AI687568, AW079572, BG112718, AI568060, AL120696, AA916133, AI917963, AI365256, AW264719, AW085786, AI434242, AI472536, AI537677, AV707933, AI119791, AW022636, AA127565, AI251830, AI863197, AI799234, AL038529, AL036638, BE172499, AL118620, BE540952, AW082532, T28421, AL020995, Z65427, AC018639, AL389935, AF155148, AF130055, I48978, AF120268, AI8777, AL133619, AL389982, E01614, E13364, AK026532, A86558, I89947, AF113019, X66862, U92068, AX014095, AK025084, U96683, S68736, AK026462, S36676, AK000432, X80340, AK025541, I33392, AK000636, AL359583, AB047878,</p>

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HTLIF12	456	834946	1 - 1086	15 - 1100	AA778552, AI201364, AI150012, AA876180, AI223025, AW663435, AW304049, AW663514, AA978197, AI223459, T19204, AA903410, AA382504, BF377251, BF376440, BF377259, T36107, AF012359, AA864517, BF377279, T36109, AI352610, BF377252, BF377278, AI921248, AI571909, AL513907, AL513723, AI624548, AW023590, BG109270, AW081242, BF895953, AI250852, AI560099, AL514867, BG122481, AI312428, BG036846, AW827206, BF970768, AI932794,

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HTLIF12	459	886780	1 - 1067	15 - 1081	AA778552, AI201364, AI150012, AA876180, AI223025, AW663435, AW304049, AW663514, AA978197, AI223459, T19204, AA903410, AA382504, BF377251, BF376440, BF377259, T36107, AF012359, AA864517, BF377279, T36109, AI352610, BF377252, BF377278, AA868778, AW102794, AW058243, AL513723, AL514015, AI921248, AL513907, F36855, BF792781, AI978703, AI538885, AL118781, AI811603, AW131994, AV736808, AA190341, AI250852, AW827206, AI863466, AI890907, AI049669, AL514867, AI538850, AI677797, AI345688, AL039783, BE966927, BE011880, AI241744, AI571699, AI560099, AW078650, AI690946, AI950100, BG121335, BE965121, AI866624, AL514689, AI036509, BF812439, BF971336, AW083804, AI932503, AI081740, AI623941, AI446248, BE964576, AV647670, AL514493, AA514684, AI491904, AI571909, BE252769, AI860027, AI334893, AW081242, AI345737, AI925196, BG110241, AI345736, AA693355, AI453328, AL513951, AI364135, AI961286, BE963777, BE965230, AL514359, BG113188, AI824444, AI564290, BE139128, AI280747, AA744531, AI866798, BE785348, AW131065, AI565062, AW827290, AA767211, AI524654, AL048323, AI866461, AI934039, AI799158, AA937566, AL048340, AI312428, AI287489, AV681618, AI340603, AI690813, AI858310, AW190808, AI538764, AV724929, AI927233, AI579979, AI831308, H89138, AL514623, AA580663, BE880209, AI440238, AI678446, BE962857, AW022102, AL513553, F34800, AW083750, BF680133, AI310575, AW130356, BF814447, AI633061, AI335363, AI538247, BF764538, BG168054, AI360195, BG029457, AI887775, AI640799, AA844225, AI310606, AI273856, AI340533, AW189196, BE962519, AW022636, AL514205, AL038505, BG250746,

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HTLIF12	461	901225	1 - 1067	15 - 1081	AA778552, AI201364, AI150012, AA876180, AI223025, AW663435, AW304049, AW663514, AA978197, AI223459, T19204, AA903410, AA382504, BF377251, BF376440, BF377259, T36107, AF012359, AA864517, BF377279, T36109, AI352610, BF377252, BF377278, AA868778, AW102794, AW058243, AL513723, AL514015, AI921248, AL513907, F36855, BF792781, AI978703, AI538885, AI118781, AI811603, AW131994, AV736808, AI190341, AI250852, AW827206, AI863466, AI890907, AI049669, AL514867, AI538850, AI677797, AI345688, AI039783, BE966927, BE011880, AI241744, AI571699, AI560099, AW078650, AI690946, AI950100, BG121335, BE965121, AI866624, AL514689, AL036509, BF812439, BF971336, AW083804, AI932503, AI081740, AI623941, AI446248, BE964576, AV647670, AL514493, AA514684, AI491904, AI571909, BE252769, AI860027, AI334893, AW081242, AI345737,

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HTNAM63	462	566880	1 - 992	15 - 1006	H09769, F10638, R38267, R44588, R39341, R42709, R43439, AA384250, AW999408, and AF070575.
HTNBK13	463	831967	1 - 1146	15 - 1160	BE799670, BE794458, BF969839, BF116235, BE894258, AI755110, BE693669, AA209372, AA209368, AV702645, AW957276, AV724122, AW517214, AW173346, AA197278, AI609300, BF726226, AI261762, BE882052, AI400083, AA112077, AI242204, AA114827, AA314213, AI741473, AI828740, AI982748, AA197243, AI140451, BF923463,

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HTOAI50	464	638623	1 - 1244	15 - 1258	<p>AV684358, AV694251, AW748015, AW175722, BE082285, AA280579,</p>

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HTOAM11	465	664508	1 - 1186	15 - 1200	AV756491, AW500684, AI821931, AI755214, BF725844, AI754567, AI754105, AW576251, AW340905, AL079734, AL040374, BF879045, AA126763, AI732430, AI380617, T74524, AL120343, BE138594, AA535216, AA533054, AI732458, AA127499, AI821714, AI792133, AI791913, AA602906, BF725761, AI923052, BF868994, AA714110, BE704103, AI821785, AI358712, AW504168, BF526964, AI755202, H07953, AW961593, AI066646, AW302711, AI144081, AA515733, AA704393, AW407632, AV764259, AW732205, AW973992, BE139267, AW157456, AW957600, AW162697, AV737160, BF917346, AV760941, AI669421, AI357823, AA862227, AA659832, AW275971, AI300054, AW079761, AW502873, BF724838, AA715814, BF977305, AI312309, AA700943, AC006970, AL050335, AC006368, AC007011, AC005821, AC008569, AL117334, AF038458, AC016027, AC003101, AL159977, AF107045, AC011464, AP001719, AC012627, AC016830, AF207550, AC007850, AL031845, AC022148, AC015853, AC008372,

				AC008551, AC003046, AL355392, AP000493, AL355094, AC020916, AC004840, AP001710, AC006120, AC004841, AL157838, AC005932, AC002395, AC005874, AF134471, AC008101, AC004526, AL117381, Z83822, AC004125, AC025593, AC005756, AC007227, Z83826, AC011479, AC005512, AL035460, AC004386, AJ297357, AJ251973, AC010463, AL109804, AL121890, AC005231, AC005702, AC006141, AP001670, AL078463, AL109915, Z97632, AC005291, AC016025, AC006468, AL133453, AL109797, AL121601, AC005212, AC004821, AC006285, AF254822, AP001759, M37468, AC009244, AC002300, AC008969, AC004089, AC020947, AC016026, AL356299, AC000115, AC005015, AC005274, AL022721, AL135927, AC005071, AC005081, AL136980, AF053356, AL139396, AC002314, AC005225, AL022313, AL138756, AC007114, AC008753, AC006236, AP001717, AC011442, AC005793, AC004598, AC005971, AC005914, AL049872, AL355497, AC002350, AL035587, U96629, AC011497, AP000455, AC008124, AC005839, AF168787, AL136137, AC005091, AC007845, AL109976, AL138717, AC005695, AC009530, AL133382, AC006345, AC004166, AC010358, AL354836, AC006211, AL353804, AC004858, AC002429, AC008770, AL162390, AL008730, AC011465, AP001672, AL023284, AL096701, AF067844, AC005041, AC006077, Z85996, AL353602, AP000555, AL352984, AC021036, AL031658, AL034420, AC010854, AC005215, AL133548, AL031602, AC011470, AL031276, AC005606, AC005280, AP000045, AP000113, AL022330, Z99716, AC006026, AL035410, AC034207, AC002476, AC008812, AC018764, AL035455, AL118501, AL109743, AL136228, AC008267, AL133545, AC007057, AC009086, AC004973, AC008155, AF225899, AC007193, AL133215, AC011895, AC008403, AL121891, AL160231, AC019046, AL121656, AC005516, AL163210, AP000300, AC005018, AL031577, AC005829, AL021393, AC004932, AL049537, AJ009611, AL135960, AC005047, AJ131016, AC011484, AL096791, AC002549, AL138741, AL096840, AC002425, AC010422, AC016543, AC005520, AL354720, AC009155, AL136109, AC008958, AC020751, AL138706, AC004032, AC004824, AC018639, AC007277, AC004812, AC005226, AC004611, AC068314, AC005915, AL390209, AC004859, AL031662, AL138914, AC007021, AL117341,
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					AC005532, AL034380, AL031005, AB023048, AC005740, AC006014, AC005784, and AL445248.
HTODH57	466	823126	1 - 1638	15 - 1652	AL136531.
HTODH83	467	580884	1 - 1967	15 - 1981	
HTOEV16	468	853616	1 - 1626	15 - 1640	BF527726, BE299173, AA887221, AI928947, AA758004, BE295776, AA588764, AI929201, BG117724, BF512638, AI589710, BF740103, BE045390, BE669948, AI003974, AL537272, R51317, AI921468, AA621681, H18562, AI870848, BE245840, R51429, AI421604, AI537927, AA722267, BE295289, H18455, AA668688, AA043535, AW005517, AI870950, AI378717, AI311219, AW007384, AW300238, AF156776, AL109942, AJ227890, and AJ227891.
HTOGR38	469	824639	1 - 762	15 - 776	AI287599, N33389, AI653368, AA256934, AA255443, H93520, and H93870.
HTOHO21	470	732808	1 - 713	15 - 727	AI821139, AI791153, BE562162, AW601890, AW801984, BE261016, BE262216, BF316552, BE397707, AW604835, BF508954, AI732110, AA939219, BF311274, AA768121, AF126008, U03634, and AF127481.
HTOHQ05	471	853621	1 - 1846	15 - 1860	AI891064, AV712559, AV714449, BE674242, AW236328, AW468584, AI471727, AW075709, AW339517, AW514930, AW028025, AI921478, AW337867, AW339648, AW630256, BG150095, AA872393, AW170756, AW473331, AW468076, AI678984, AA742417, AI587123, AV711671, AA789153, AW075931, AI285693, AW075991, AW578597, AI476289, AA505451, AW468276, AA579913, AW087343, AI640380, AI337611, N22030, AW339605, AI278579, AI268795, AW467495, AW076032, AI000587, AW440842, AI803881, AW195312, AA554703, BF897815, AA705051, AW380658, AI925062, BF356296, AW467476, AI587383, AI926675, AW341744, AW028424, BE617809, BE305000, AW339609, AI499956, N63943, AI707579, AI270555, AW236183, AA703103, AI354246, BF897823, W04167, AI247317, AW578573, AI472750, AI866984, BE870187, AW082436, BE720836, AI215918, BE934684, BE934614, AI536737, BE934644, AI274699, BE934674, BE934661, AI917962, AW195136, BF833053, AW057934, BF831846, AA910528, AI523270, AW379062, BE720835, AA494473, BF903996, BE720840, AW236341, AI434277, AA879139, BF089703, BE934676, BE150973, AW190716, BE934715, AW467816, AI968541, BE327733, AW468368, AI926256, BF357376, BF089507, BF357342, AW059561, AI249491, BF089709, N22036, AA937232, AW337879, BE934606, BE042475, AV712205, D20133, BE934609, AV711904, BE327649, BF089478, BE934635, BF902176, BG151221, BE934608,

					AW440838, AA347359, BF357380, AW409161, AW869066, W03915, BG149243, BE934672, BF832548, AW467784, BE720834, BG055537, AI926257, BE934611, BE962215, R97933, BE934668, R92746, AI567061, N98412, AW148316, BF897810, AW090246, BE934653, BE549820, AW029592, AI567062, AI824773, AW195281, BF900579, BE934617, BF357426, AI291268, AW630298, BF926380, BE934610, BF825343, BE934639, AW468022, AW075813, AV715354, AW075788, BE934604, BE934733, BF899983, AW467895, R77802, BE933239, AW950438, AV681599, BE933711, BF155635, BE933186, AW467340, AI537556, BE828070, AI471372, BE933718, AI291124, BE720819, BG236735, BF892890, AA329320, BE934600, BF892886, BF357346, AW351914, AV732919, AA603156, BE828055, BE720550, BE871687, BF897863, AW752400, BF735241, BE934613, AW869111, BE934616, AW467667, AW391659, BE869857, AW376143, BF825081, BF357587, AW351913, BF356294, AW578593, BE873018, AA807984, AI767007, BF348753, BE933710, BF914296, BF089697, BF914558, BF773346, AW351911, AW351915, AW578572, BF915641, AW236342, AW467679, AW440976, AI537030, AW467362, R97934, BE042786, AA513293, BE903227, BE263406, BF897820, BE733924, AW770544, BF445171, BF670796, BE273276, BE042764, BF089667, E02193, E01888, AK027009, M19045, J03801, X14008, AX017282, AX014902, AF004230, AK000727, AF254851, D17153, AB027289, AF254260, M64924, AF105228, AF002860, AF047704, AL109965, AC009075, AL138740, AC004263, AC005406, AC009247, AC002400, and AL008627.
HTOJL95	472	806212	1 - 1840	15 - 1854	AU140348, AU121033, AA533107, AI554666, BF792969, AU119289, AU146940, AU136503, AW975619, BE791374, AU146293, BF126263, AU138078, AU137706, BE894100, AW818170, AU139161, AU120741, BF820418, BF677023, AW818146, AA316763, AV750915, BG166024, BF126365, AW818168, AA553442, AW961194, AU139829, AA721044, BE972551, C75547, AW852366, AA663375, AW895721, AA169131, AI475662, AA603189, BF992082, AU118961, C75519, AA307312, AW891047, AW129720, AA663518, BF849063, AU158716, AA663511, AW864677, C75631, AI061445, C75558, BE880151, AI820994, BF527061, AW854553, C75505, C75473, BF930201, BF527980, H13052, AW265555, BF028234, AI800268, AA618410, AV731936, AA679179, AA225408, F33455, T03280, AA218836,

					AA180028, BE146572, AW864686, AL043280, BF993214, AW176108, AA602337, AU135145, AW936347, AW818166, BE178630, BE160554, AA315418, AA225390, AU120914, AW089702, AA164938, BF931499, AV720960, AA668376, AW993580, AA088381, AA487131, N23850, AA683281, AL119296, C75667, AI791133, AA586720, AA744577, AA121904, AA663524, AA557997, AW075927, AA584519, BF985200, AA715198, AA780853, AV655231, T02882, AA487154, AA490027, AA613166, W90195, BF756980, AL134345, AA577726, BF940866, AA714323, AA864766, AA669373, AA680217, AA641592, AA481772, AA464942, BF876083, AA714539, AA053383, AA180278, BG005346, AA669032, AA582583, BF883155, AA213637, AA679355, AL120645, AA577842, N57818, AA586652, AA583358, AA669383, AL119618, AA315673, AA489776, AW850913, AA494169, AA669164, AA489883, AW850912, N27645, AA594077, AA614210, AA551059, AA218892, AW835453, AA167533, AA651944, AL134095, H64879, AV686720, BF912775, AA584801, AV696238, AA485972, AA744267, BF672307, AW835452, AA481764, AW892505, AA834022, BE967439, AA161346, AK021968, AC002524, AC019173, AC009487, AC022143, AL121717, AL009176, AC025588, AL356438, AP002529, AB042031, AL136298, Z94056, AC007250, AC010369, AC005076, AC083875, AC002349, AP000083, AC005177, AC008664, AL356215, AL356020, AP000515, AC012598, AC006356, AL158193, AL133549, AC007344, AL121999, AL049710, AL136125, AL137800, AC007567, AL079305, AL136164, AC021070, AL445068, AC006070, AF241732, AC020655, AJ239329, AL390146, AC006516, AL133214, AL138816, AC008444, AL031599, AP000034, AC087089, AC005199, AC006029, AL161440, AC004158, AC004535, AL096827, AC023128, AC005922, AC008009, AL359204, AP000220, AC004894, AL136308, AC004527, AL354833, AL121841, AC019187, AJ271736, AJ225782, AC016689, AC066590, AL445224, AC000055, AL020990, AL021068, AL117667, AC003081, AC007239, Y10196, AL022345, AL138900, AL022241, AC006288, AL022154, AL353747, AL445439, AL031393, AC004613, AC016956, Z82899, AL118496, AL390316, AL158206, AL022727, AC016572, AL356774, Z76735, AL139279, AL390759, AC009892, AL023693, AL133162, AC061958, Z97198,
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					AC016617, AL022157, AC024086, AL080275, AC005247, AC024084, AL133274, AL162580, AC008250, AC020603, AC005029, AL049874, AL133539, AC006313, AC004453, AC004047, AL023495, AC007611, AL355792, AL035464, AC006257, AL391122, AL096803, AC010083, AL031664, AC006406, AC007786, AL121916, Z97180, AL022721, AC006000, AC006065, U72789, AC005541, AL049537, AL121868, U96409, AP001725, AP000692, AL133411, AL049834, AC012472, AL031622, AC016642, AP000514, AB014078, AL390768, AC010198, AL132793, AL021579, AL022324, AL035552, AL035252, AF067844, AC022424, AC004049, AL138702, AC006139, AP000426, AC008266, AC010269, AC005760, AL121939, AC016046, AC006960, AL109843, AC062033, AC006979, Z70227, AC002085, AC005681, AL132715, AC002479, AL049634, AC006442, AF095725, AL121723, AL009175, AC020637, AL163642, AL031074, AL160008, AL137226, AL161751, AL139109, AC002067, AC006007, AC006061, AL133348, Z70233, AC034186, AC026161, AC000119, AC023480, AC024167, AC003106, AC003098, AC005399, AL353140, AC026189, AP001712, AP000466, AF241733, AF282856, AL139097, AC004979, AL163207, AF127577, AC078854, AC003087, AL356504, AC068770, AC010385, AC008265, AL139327, AC008243, AL132825, AF191070, AC007282, AL121780, AF248484, AC016939, AL035087, AJ400877, AL355476, AC002083, AP000545, AL136132, AC019212, Z83745, AL133282, AC004074, AC010175, AL359703, AC004548, AC004204, AL022575, AC004065, AC018812, AC005019, AC007558, AC020581, and AL138759.
НТОЛ95	473	762851	1 - 1933	15 - 1947	AU121033, AU140348, AA533107, AI554666, AU119289, BF792969, AU146940, AU136503, BE791374, AU146293, AU138078, AU137706, AW818170, AW975619, BE894100, AW818146, AA553442, AA169131, BF126263, AA316763, BE972551, AU139161, AV718997, AW818168, AU139829, AV750915, AW129720, AW961194, AW891047, AU120741, AA307312, BF677023, AU118961, AI475662, BF849063, AA721044, BE880151, AI820994, BF992082, AA663375, BF820418, C75519, C75547, BG166024, T03280, AW852366, C75558, AV731936, AA225408, AA679179, AA663511, BF527980, BE146572, AL043280, BF993214, AI800268, C75631, C75505, BF028234, AU135145, AW936347, AW864677, BE178630, AW895721,

				AA225390, AU120914, AA218836, BF931499, AV720960, BF930201, AA663518, AA088381, BG005346, AA683281, BF527061, AA180028, H13052, AW265555, AU158716, AI061445, C75473, BF985200, AA603189, AA618410, AV692916, BF126365, AV686720, AV696238, AA714323, AA121904, W90195, AL134345, BF940866, AA602337, AA864766, AA641592, AA164938, AV655231, AA180278, C75667, AW864686, AA586720, N23850, AW818166, AA744577, AL120645, AW850913, AL119618, AA315673, AA315418, BF876083, AW850912, AA663524, AW089702, AA487131, BF756980, AW835453, H64879, AA584801, BE160554, BF883155, AA584519, BF672307, AW835452, AW892505, AA583358, AV730141, BE967439, AA487154, N57818, AW176108, AA651944, AU120025, AW860074, AW889053, AA581908, AW854172, AA601677, AV729115, AW238615, AA494169, BF902433, AA053383, AU135558, BE181393, AI267828, BF912775, AL119296, AA160941, T02882, N27645, AA804719, AL138058, AA218892, AW936488, AA481772, AA640504, AA485972, AI267227, AA594077, AA557997, BE856758, AW075927, BE184421, AL134095, BE062393, AA551059, AI052560, AW854785, AA209286, AW816953, AK021968, AL158193, AC007878, AL080275, AL121916, AC022143, AL009176, AC023480, AC024167, AC019173, AC009487, AC008664, AC005047, AC008250, AL022727, AC007250, AL121868, AC005076, AC083875, AL356215, AC002349, Z94056, AL136125, AL121717, AP001660, AP001634, AC004527, AL096827, AL136298, AL109934, AC004535, AC025588, AL356020, AP002529, AL356438, AB042031, AL080248, AL110505, AP000083, Z82205, AC007402, AC010369, AC016689, AL117333, U69730, AL357793, AC021012, AC005177, AC003676, AC002463, AC074191, AC002429, AF109076, AL031114, AL121782, AC012598, AL049778, AC004852, AL356865, AC002524, U82671, AC007690, AL021068, AL137118, AC004615, AC005019, Z82899, Z82210, AC007032, AC024576, AK023417, AK002154, AK024354, AF235097, AC002454, AC005386, U78045, AC007004, AC006840, U82828, AC007344, AC008162, AC008122, AP000034, AC026201, AL354977, AC006333, AC003658, Z93022, AC000125, AC004959, AL355792, AC005922, AC006070, AL353667, AL139382, AL121841, AC016956, AC019187, AL137022, AL358372, AC084732, AC009415,
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					AL353614, AL109920, AL158050, AL023806, AC005094, AF265340, AL121575, AL121877, AL135918, AL049710, AC006043, AC012077, Z93403, AL109931, AL023713, AC005029, AC002070, AC006356, AC009308, AC022274, AC073607, AC020655, AC012472, AL079305, AP001725, AP000692, AC008009, AC021070, AC022268, AC004051, AP002532, AB045359, AL365440, AK024207, AC007567, AL034410, AP001671, AJ239329, AL121999, AL391666, AL136296, AL133549, AC005859, AL118496, AP000514, AB014078, AC006139, AC003106, AL135879, AL121790, AL031074, AC008444, AL136307, AC006029, AL161440, AL356504, AC003081, AC024600, Y10196, AC008929, AC005593, AL359204, AL133162, AL353587, AL008639, Z97198, AL365214, AL133214, AC012082, AL031393, AL354793, AL158841, AC005739, AB020861, AP001818, AC006120, AC009329, AC000119, AP001821, AC003099, Z82194, AL356774, AC012611, AC004650, AL031785, AP002023, AC063976, AC005201, AC004613, AC078854, AL353140, AC002488, AC007286, AC004158, AC006257, AC011524, AC004415, AC009226, AL023495, AL031599, AC004544, AC006516, AL133274, AC023478, AC026188, AL137800, AC007239, AL133539, AL390146, AC006000, AL445439, AL162580, Z97180, AL022721, Z84816, AL022154, AL035252, Z70227, AL354833, AC008127, AC016642, Z80774, AL136133, AC005247, AL356473, Z82900, AC009232, AC009892, AL031622, AL034369, AC009230, AL357513, AC010176, AC012067, AC006406, AL391122, AL035464, AC006065, AC007611, AL133411, AC074338, AC004894, AL136308, AL022345, and AC024086.
HTPDU17	474	840596	1 - 2064	15 - 2078	BE869540, AL138453, AI889499, BE676567, AI683595, AU148542, AI039004, BF512788, AI870272, AI475918, W84558, AI306697, AI348214, AU124745, AI039634, AW339552, AA993287, AI378108, AI660166, AI632811, AI022311, AA421143, AI969630, H13875, AU156227, AA448780, AV656957, AA620816, AI351952, AI077578, AA397629, H69276, AI140584, AI093561, AA369632, BF768781, BF768924, Z46102, BE825411, AA905570, AA252965, R06813, R69887, AI610669, BF836773, AA383097, AA953665, AV724009, AI368500, AW300903, AW577896, BE393193, R33167, F04291, BF348790, AW935770, AA301251, H13832, AA227255, AW843678, AA234999, AW935729, AA449799, BF834447, AW139651, AW134619, and AK001266.

HTSFJ32	475	637720	1 - 1243	15 - 1257	BF843130, AU117513, AI681088, AI680701, AI361919, AW157408, C04469, AI955119, AI928912, AI469126, BF116057, AI889802, AV729134, AW162400, BF337597, AW895617, AA863008, AI417558, AW057928, AI815549, AA371959, AW327982, AI678991, H84469, BE382373, R89704, H83576, AV721961, AI753112, AW960529, AW970050, AA416603, AV703569, D53506, AI160829, AA570262, D56033, AI902757, W28382, D55124, AW327983, AV704116, BE771726, AA678993, AA626015, BF677512, AI220523, AI804192, H58710, BF834065, AW961885, C04546, AI816491, BF432083, AW900853, AA974795, AA971398, AA416621, AA916174, AI538211, AA864450, AA909154, AA302583, BF809398, BF196301, AW181916, AU144323, AI123339, AA372034, R37820, H43815, M78721, C04507, H49972, BE932208, AW901234, AW901364, AI565159, AW341471, AA601597, R95024, R94938, H92470, AI799873, D55563, H50010, AA702558, AA574290, AW900864, AW905864, BG015591, R96005, AW903806, R95966, H30648, H20798, T63337, BE243401, AA707707, H27871, BF979913, BF991086, H14147, H30647, H58320, T61965, H56594, H22616, T63962, BE910629, R88595, M78801, H56595, AL036957, BG009728, AA505362, AI915406, BE829368, BE770916, AA977550, BE272026, BF844035, AA910693, AA832013, C20841, BG031911, AF135372, AK021522, AJ225044, I77040, AJ133104, AF240769, AL050223, AF007168, U60150, M36203, X76199, and M36204.
HTTCB60	476	853401	1 - 1490	15 - 1504	AL527596, AL530567, AI114859, BE407719, AL527597, AL529809, AI830718, AI640304, BF447073, AI862404, AI419019, BE899304, AA496239, AI889002, AL514080, BF000126, AI200382, BE048538, AA442132, AI798632, AI140806, AI565622, AU156790, AA834046, AW294987, AI183801, W68566, AI872891, AA456203, AI364465, AI765479, BE645691, AI468507, BF477789, AI672711, W68567, AI187099, AW135628, AI417504, AI004499, AA815198, AL526637, AI371368, Z19140, AI349321, AI074599, AA442131, AL529295, AA610289, AI620803, W73758, AW880750, BE782057, AI002625, AU136598, BG122646, AA496240, AI298503, AW339508, BE467855, AI310364, AI346793, W73592, AI926388, AW452176, AI884667, AI183908, AW470742, AA593079, N92388, AW771410, AU144823, AW172442, AI086796, AW104502, AW572529, AI381931, AA707604, AI640676, AW571951, AI868834, AI313208, AI861943, AA719132, AW471200, AI990933, AI193543, AI193748, AI921195,

					AA903834, AW023979, AI825347, AI861932, AI919371, AI248156, AI694324, AA442774, AA701903, BF433373, BF063027, AA885026, AA723857, BF001754, BF588721, AI916136, AI686495, BF062018, AI990711, BF060737, AI202906, AW471024, AI675788, AI910996, AW663382, AW770995, BG057507, BF110069, BE670537, BF114632, AA427828, AI537838, AI130863, AI651012, AI148378, AA780173, AW079270, AA621634, AI571348, W95356, AA010215, AK001914, AP000501, AF130058, AF298153, AF206673, AL110244, AB040964, and AL137610.
HTTEE41	477	840950	1 - 1959	15 - 1973	AL533251, AL514520, AL535565, AL519250, AU120401, AL514519, AL513606, AL517678, AI986262, AU139509, AU138912, BF797374, AU124362, AV714807, AI970836, T25350, BG169633, AU126517, BG031251, AA854925, AI683290, AI084631, AU130264, BE748699, AU124315, AU133858, BG109529, AU135232, AI080278, BG119840, AI114754, BG258768, BG255494, BE786284, AI955296, AU126258, BG254492, BF057590, AI342485, BE907879, AV689488, BG035949, AV688329, BE780740, AI982815, BE897302, AL037847, BE619295, BF037149, BE547405, BE540421, BE870861, BG119545, BE891546, BE872237, BG179989, BE784107, AI992184, AU128577, BE893297, BE798745, AI858401, BE871280, BE882225, AI801143, BE748021, BG033360, BF984307, BF795054, BE535364, BE870845, AV711098, BG115930, BE787681, BE542328, BE872802, BF700048, BF695387, AI674907, BE439607, BF984686, AW079041, BG166631, BE896320, BE541060, BG168465, BF212903, BG165234, BF036631, AW276472, AI469127, BG116642, AW304879, BG035549, BE298292, BE383409, AW951669, BE789205, AA876301, AI559157, BE618039, BE569054, BE884211, AA314410, AL037869, BF034922, BG261406, BE278215, AI567289, AI216294, BE536033, AI160646, BE541100, AI652229, BF793118, AA573870, BE781061, AW675729, AV717435, AW967121, AW268555, AW614767, BE871948, BF246592, AW302409, BG231674, AL519249, AI623915, AA633523, BG056451, AI554391, BF593678, AL513605, AA541705, BE536986, BE540075, BE893524, BF211942, AW403677, BE302004, BF030769, AA639701, AW675653, BG114666, BF305722, AI812111, AI003845, AI922596, AI610416, BE874043, AI690769, AI423245, BE884372, AI041880, BE972270, BE277936, AI970618, BE564025, AA569371, BE536189, AW517408, BF692138, AA838062, AW675629, BE544390, AA665762, AI129259, AI018744, AV717173, BE563964, BE278405, AU155033, AA779219,

				AA935682, AA306144, AA307298, AA707035, BF241179, BF207700, BE018391, BE964282, AA916194, BE567396, AA928532, AW197045, AA740956, AA877985, AI081121, AV751536, AA102457, AA160479, AA192686, AA574025, AU146473, AV739405, AA242865, AI249678, AA081834, AI566278, BF212412, AA188046, BF242025, AI517677, W22339, AV748102, AW001935, AU157811, AA634515, AI151103, AI027752, AV752496, AA031432, BE535794, AA838373, BG166698, AW023950, AA514375, BE540980, BE222647, AI027493, AA308098, AI499910, AU150842, AI537313, BE258575, AW468963, AA665209, BF208112, AI288710, AI074560, AA758489, AA307507, AU128978, AI121077, AA224142, BE551072, AU152253, AI589777, AA242864, AA865406, AI086547, AA159666, AI082436, AW953920, AA143173, BE909718, AW089251, AI240700, W72593, AI919263, AF026166, AF026293, A45916, Z31553, AB041570, AF130110, AB022156, U91327, T55193, T70199, T88741, T91070, R11411, R12294, R12806, R19161, R25132, R25131, H02506, H02507, H54342, H56330, H63377, H63378, N21157, N29115, N70633, N98764, W00501, W02093, W05515, W30995, W32188, W45121, W52697, W76587, AA022658, AA022740, AA031431, AA047132, AA045726, AA053378, AA053093, AA084605, AA136549, AA142896, AA151835, AA151836, AA159771, AA187179, AA192116, AA224141, AA233936, AA232345, AA488991, AA534693, AA586488, AA623003, AA740505, AA829738, AA829916, AA876221, AA932434, AA933813, AA968745, AA969795, AI089838, D81695, N84531, C00761, N87565, C14312, C14469, AA641463, C17845, AA209312, AA401491, AA400238, AA598835, AA644299, AA705865, AA723334, AA852740, AA852739, AI076109, T23525, T16205, T27335, and T27402.
HTTEZ02	478	702027	1 - 1866	15 - 1880 Z78400, BG028169, AV701245, BF217849, AA218857, AV717278, AA195389, BG115579, BF035193, AA224200, AA173089, AW022929, BG254596, BG105618, N32553, AW157635, AA888859, AA812760, BE514594, AA919124, BG169602, AI693195, AI361898, AI400569, AI809750, AI554832, AW021100, AW594046, AI400562, AA626772, AI690042, N35233, AI904871, BE568698, AI096446, AA969428, AI828363, AI564018, AW268595, AA629255, AI298401, AW262629, AA400999, AA719937, AI500513, AI078830, AI817899, AA883787, AW613895,

					AA430476, N27561, AW378185, AI298296, AI624174, AA393699, AI633132, AI422415, AW378198, AI298299, AI401356, AW305257, AA219631, AA807616, AA489352, T56139, AA907786, W93879, BG032865, AA653791, N27560, AI074258, AI678728, AI261890, AI298961, AI344542, AW768592, AI379292, AA401051, AA405601, AW362624, AI561124, AI290590, AI762945, AI080719, AW664495, AI888740, AW768619, AI014963, BF082096, AA620723, N42556, AA010138, AA716364, BE887571, AA704177, AI167289, AA010137, AA602348, AA309514, AI383326, AA554490, AA610578, R61300, AA001882, AI358665, BF028958, N31829, AW105444, AA130243, R99805, AA496713, BF769069, AA053111, AA608941, N88345, AA053197, D53662, AA583502, H14404, N40381, AI286330, AW169769, D55214, AW591043, AI702034, AV701485, H68855, AI803653, BG033115, AI633561, AV701141, AV701100, AV701093, AA300693, AA848044, AI080436, AI130566, AI282160, R99806, AA669451, AW884015, AI613460, AA886577, AA252945, AW511152, AA704271, AA121377, Z21699, BF571142, AA524103, AI016830, AA361666, BF769934, AI708196, BE169662, H14356, BF754089, R59756, H47037, T32743, BF028878, AV717877, BG056996, AI307180, AW369846, AA913420, AI698323, AI016961, AW369824, AW102747, AA861466, AB040373, T56877, AA253070, R34888, AA354810, D51336, D59402, BF768909, AA343115, AA913877, BF954188, AA295352, BE769312, AW176046, N41897, AA496770, AA379607, AI379961, AI918455, T56106, AA853661, AW378174, AA853080, AA620954, BE769348, AA121554, BE769144, BE857305, R36913, H46500, AA853079, AW176136, AI989944, AA314804, T56876, T98078, T98000, AA299446, AW592357, AI191750, BF768774, AA133924, AW026823, R49272, AA379971, BE502448, AI032903, AA232295, AA379673, N44896, AW378181, AA300876, AA455732, AW844754, BE674537, AV737421, N89010, AW149752, AA382215, BE858420, AI814435, H68856, T32370, T32369, AW196070, AA300752, AW804669, AW804980, BE713234, AA074453, AA853660, H06494, AW192422, BE825912, N64266, BE936365, BE938798, AW960923, AK027137, AK024987, AF192784, AF192793, U41315, U41316, AL031686, AF192785, AF192786, and AF192787. AA459162, BE143033, AC004858, AF109907, AL050349, AF053356, AC020916, AC011895, AC020906, AF134726, AC004253, AC008738, AC020908, AL133387,
HTWEH94	479	561680	1 - 1347	15 - 1361	

					AC002126, AC005522, AC005620, AC005052, AC004089, AC005071, AC006312, U91321, AC005015, AC004826, AC009247, AL139100, AC010605, AC011490, AC004980, and AL035587.
HTXBD09	480	839429	1 - 1907	15 - 1921	AI884916, AW083150, AA827694, W93788, AA740409, AA490045, AI659983, AW950838, N52326, AI870336, N51940, AI421757, AI248123, AW008922, BE770176, AI088634, AI089594, AI245971, AI719650, AI500258, BE836142, BE836133, AI262219, BE836130, BE836136, AI081494, BE770190, BE770147, BE868866, AA293602, BE044456, AI382144, AA421693, R15900, AI498767, AA744574, H11070, AA573099, AI160106, AI628047, AU137109, AA962435, AI150487, AI245968, AA147171, AW438652, AA252792, AW087914, BE770203, AI753355, BE836121, AI346145, AA429486, R15899, W42863, AA293129, AA181668, BE836141, AI004924, AA678515, AA746201, W42918, AI434107, W38513, AA832465, AA826524, AA157959, AA613818, AA995480, BE770196, AA443500, M78485, W92588, D20788, AI277677, T32488, R74528, AA657614, R40027, AU124739, AW958456, T34296, AA155583, BE253586, T09425, BF513273, AA626860, BE900348, AW501602, N53724, AV744720, AA293762, AU122386, F17332, AU131697, AA536181, AA614503, AA421694, BE254643, AW472878, BE151822, AA902498, AW793097, AA062889, R19097, AI091138, AI433267, AI491996, AW793111, BF820684, AI682098, AW793144, AI296021, AI932499, AA704197, AI023148, AI686435, R37468, AI828614, N80223, BE825898, N75096, BF822243, AW841757, BE707302, AW009160, BE244636, AA355118, AA310703, BE545002, N35206, AI311464, AL120923, AR063944, U29171, T66525, and T66526.
HTXDB22	481	853407	1 - 1197	15 - 1211	AU120951, AU119873, AU117591, BG260386, AU127211, AW953801, BF218075, BF084760, BE326758, AU146104, BG249958, AW148854, BF664840, AW152140, BG056487, AW071174, AU138364, AV714159, AA426578, BE866443, AA669103, BF342003, BF213671, BE541825, BF084759, AI823680, N50863, AU157623, AI983168, AV721129, AA772465, AU149143, N45220, AI243439, AI819552, AI081164, BF939532, AI041875, AL040404, AI287615, AA585379, AW338221, AA806198, AI433325, AU155408, AA418914, AW302345, AA974142, AI299975, AI984738, BF575544, AI027802, BE817965, AI357072, AA835986, AA526442, BG032818, AI417024, AI709380, AI040653, AI242317, BE836866, AA243809, AA903560, BE829771, AI439877,

					AU156276, AI083595, AA996316, AA830274, AA954852, AI719887, BF679452, AA931087, AI287712, AI199746, AI367496, AA744833, AA830534, AA994336, R01243, T51937, BE836877, H17947, AV684328, AA335776, AA604069, AA522552, AA364229, BF913322, N64600, BE939965, AA523538, AV738407, W47118, AA028057, AA876636, BE895824, AI719894, AI276387, AA554017, BE835514, H97418, BE817968, AA912273, AI749328, R71014, AW085997, R45561, BG230793, AA356315, W39199, F09004, H89126, AA028058, AA665259, AA307195, BE349314, BF102782, H89233, BF028479, AV737654, BF244691, H13671, AI288433, BE940011, AA657779, AA370915, AA604866, AI147796, AW604074, T18902, AI588898, AA084221, AA714952, BE707311, AV727825, BE826166, AW339505, AA836439, AI650688, AA492514, AA243497, AW118500, BF109537, AA639077, AA639167, BE243751, H13718, BF094186, AI984411, BE771105, AV739641, BE785982, AI783478, AA844611, N90258, AA731057, BG013794, AA862240, D20450, BF366469, AW129732, T24696, AA904097, AW189346, BE538399, AW903152, AW020290, H38744, BE172808, N79925, BE167173, BE710904, BG107064, AA093593, BF906644, BE842914, AA502418, D56188, AL031775, and AK022681.
HTXDC38	482	801935	1 - 806	15 - 820	BE312753, BE880620, BE727427, BE794996, BF311864, BF038611, AW129730, BE259585, BE276712, BG178939, BF793303, BF968281, AA910935, AI870987, BE885540, BE389702, BF316569, BE314482, AA707309, BE257344, AW964530, BE276683, AW090049, BE395893, BF204261, AI569774, BG248285, BE046061, BF828154, BE385110, BE908527, BE208254, BE390965, BF036363, AW088236, AA700721, BF434108, N42222, AI188825, AI222163, AI018526, BF828510, AA425831, AI933135, BF828526, BE294105, AI095476, AA884320, BE727256, AV744290, BF828583, AA428347, BE393331, W22084, AA575839, BE019332, BF204699, AA099520, AA830859, AW007735, AI051338, W44963, F22552, AI302395, AW027217, BG057679, AA224033, AA528053, AA643710, AA588420, AA972918, AI220664, AW592051, AI208521, BE019282, AI301455, AI355465, AI869716, AA651649, N62353, AA099521, AA223969, AV741580, W65318, AW792980, AA904065, T49543, BE205941, W44428, AI207269, AA341081, AA533603, AA576820, AA339390, T49542, AA005085, AA339526, AA320308, BG115142, W65317, AV744092, W44467, AA069720, AA069679, BF798469, BF881370, AA687492, N79115, AI188822, AA339467, AA687436, AI918249,

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HTXDC77	483	844258	1 - 1427	15 - 1441	AL048398, AL533105, AL533106, BF344434, BF976380, AL526608, BG108318, AL533479, AL524366, BG121734, BE270974, AL525503, AI685063, BF340316, BF976374, AI986227, BF338072, AL534352, AV713486, BG252007, BF688891, BF339642, AI961397, AL515526, BF339166, AI660456, AI859478, AL525718, AI857853, AW129737, AI691022, AI554415, AV700484, AI635254, AA554965, AI114563, AI828720, BF337530, AL516247, AI982988, AI887387, AL537877, AI925545, AI956083, AL513728, AI680089, AW105307, AI521131, AI499170, AL532717, AV703945, AI355153, BF337306, BE619806, BG026446, AI887348, AI924836, AL516855, AW473520, AL535151, AW167952, BG251982, AW795852, AI985880, BF525575, AL532778, BF448476, AI800401, BG113110, AI818397, AW439622, AI828283, AI817254, BF915010, AI510849, AI305110, BF975623, AI922755, BE877278, AW439759, AI913321, AL537919, AW169348, AI884458, AI887480, AW795873, BG179626, AI956160, AW973441, AW152344, BF975283, BF589731, AA496640, AI858779, AW662257, AI750146, AW583401, AI811511, AW512413, AW518964, AW516028, AA573819, AW167234, AW189091, AW192541, BE677714, AA573954, AW474853, AW474410, AL516856, AW512425, AI979229, AV701958, AW471325, AI858787, AA573821, AW167432, AI826944, BE907361, AW269685, AW189110, AW152327, AW073378, AI858377, AW151272, AW055316, AA554738, BE042787, BE465643, BE138866, AI805440, AW276171, BF940798, AA573796, AL524367, AW169343, AW273181, AI963791, AW469467, AI811135, AW058409, AI801020, AW468196, BF337806, AI982803, AW338698, AW512181, AW080415, AI688927, AV734316, AI735045, AI709182, BE043988, AL519756, AW189478, AW275803, AI862058, AW469293, BG250920, BE677677, AI697116, BG179533, AI951040, AW054983, AW795872, AA075469, AW276483, BF797579, AI859386, AI917255, AW262806, AW518236, BG056322, AW338735, AI926601, BF525583, AW129350, BG179619, BE677172, AW795849, AV653886, AI828354, BE677054, AL536513, AI921719, AW148998, AI815037, AI862827, AW578247, BE222749, AI961912, BF341008, AA552665, AI110593, AI679848, AW515596, BF941137, AI952044,

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HTXDD61	484	853408	1 - 1126	15 - 1140	AL527762, BG033859, BF570204, BF527195, AI076793, AI972891, BF110354, AI862125, BE549951, BE208014, AI565789, BF337668, W76105, AI361692, BG149697, W72591, BE328157, AI369826, AW770937, AI458113, H79605, W03277, BG056175, AI565656, AA112478, N69449, AW370951, AW370945, AW370952, AW014942, AW370931, AW370953, R91331, AW578714, AA773410, H71720, T34992, AA417749, BF344885, AW014279, AW370939, AW370937, R91290, AA577459, AI675851, AI474427, H79606, AI420259, H72285, BF593346, T23807, R45437, AA322599, AI609562, BE165545, AA236335, AI682500, AI696353, AI695166, AW962021, AA112477, AW370993, AA773411, AI693959, BE698067, AI146575, AL527763, D19780, AA236241, AW629407, BE165454, AI678074, BE150486, AW084416, AW606005, BE165443, BE150489, and AA632941.
HTXDG92	485	658730	1 - 1148	15 - 1162	BF034514, AW027319, AA393485, R62243, AI810717, BE999941, W69160, W69286, W57903, AA631235, AI766161, AI860626, AW453087, BF991821, AA485564, AA148470, AI298594, BF107486, BE048342, AW440613, AI684022, BF110344, R69650, AW958450, R69664, H51376, AA036897, AI869096, AA501595, BF910477, AI936365, AA503611, AI962698, H00843, AI473149, BF513848, AA036898, R21268, AA355015, BE393026, AW028218, BE265190, R21267, AA400786, BF917732, BF917734, BF872260, AA485403, W57902, AA209160, AI620837, R22871, BE622738, BF907430, AA148471, AI824248, and BE907695.
HTXET11	486	581521	1 - 975	15 - 989	AC012076.
HTXFA72	487	853410	1 - 1847	15 - 1861	AW007854, BE677425, AW297663, AC008102, AC007637, AC004887, AC007383, AP000426, AC020916, AC006538, AL133325, AL121754, AC024075, AL109758, AL080243, AC002365, AC005702, AL121905, AC008738, AL049832, AC011491, AC020744, AC004953, Z84484, AC006559, AC003101, AL157827, AL133214, AL357498, AC003046, AC011895, AC011442,

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HTXJY08	488	637774	1 - 1173	15 - 1187	BG163801, BE892293, AW467952, AI273661, AA937102, AI400753, AA937101, AI571239, Z45153, N44737, AA359719, AL049162, BF754319, BE888980, AC004757, and AC005962.
HTXKF95	489	834438	1 - 870	15 - 884	AI934965, AW574868, BF056901, BE676636, AA831751, AA814605, AW590381, AI857985, AA742405, BF592924, AI697328, BF059191, AW450001, AI341301, AW610280, AI635420, AA917582, AI418901, C01813, BE694168, AW291415, AA775165, BF798709, BF916068, BF798708, AC008083, and AC004242.
HTXMZ07	490	834881	1 - 1638	15 - 1652	BE793894, AI807759, AW450916, BF514313, AA043271, AA743402, AW275098, BF063672, W03512, N67515, AI910822, AI914953, AI095495, R49704, AA857790, AW511159, BE252860, R40481, AI394479, AA827387, H21772, AA043270, R88601, BE794741, AA378050, AA953772, R13050, AW197695, BE265969, BF972450, AA323849, AW118231, R19093, T16265, H21771, C01211, BF971537, BG030873, BF941824, AI797365, and BE266351.
HUFCL31	491	801938	1 - 1446	15 - 1460	AI821606, AI791844, AW050605, AA573825, AI660560, AI826629, AI304327, AW009962, AI262416, AI983793, AI984141, AI660493, AI991272, AI274929, AI281211, AA593860, AA618335, AI346155, AI732165, AI821178, AA469031, AI695625, AI924216, BF917041, AI921289, AX035346, AX035348, Z57552, and Z59954.
HUKBT67	492	844446	1 - 2055	15 - 2069	AL534831, AL525340, BG253637, BE158919, AL041533, AA412555, AI902380, AW268866, AW204733, AI052030, BE675160, AI820025, AI949970, BE674073, BE220385, AI635256, AI684239, AA404357, AA536083, AI814511, AI279605, AW578511, AI057122, BE502407, AI690601, AI623430, AW197222, AI436598, AW468451, BE552410, AA449655, BF001330, AW863792, BF316346, AI016093, AI598090, AI216118, AI580867, AW905049, AW273283, AW206064, W56105, AA115705, BE646649, AA403094, AI673042, AI758628, BF325711, AI956118, AI433186, BE206122, AI278925, R98648, AI143576, AW204364, W44384, BE221437, BE206206, R53615, W45019, BF433503, BE832258, AI435230,

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HUKDF20	493	566823	1 - 1091	15 - 1105	AL133246, and AC008572.
HUKDY82	494	570896	1 - 1421	15 - 1435	BE783089, BE789391, BF772511, BG165382, AI862790, BF771072, BE152519, AW818329, AW819150, BE843100, AW819068, AW819148, AW859021, N44628, AW819071, BE843098, AW858883, AW819129, BE843109, AW818377, AW858884, BE843087, N33817, BF334447, AI421263, AI920892, BG109013, BE139139, AI250552, AI251034, BE927394, AW270255, AI284543, AI251284, AI251203, BE138387, AI561210, AI537020, AI340151, AI254770, AW303098, AI223626, AI278972, BF744666, AI753672, AI627614, AW270385, AW969743, AI362442, AI249853, AA483606, AW674258, AA464271, AA570740, AI251241, BF932134, AW862005, AW063362, AI135605, BE042006, AI538491, AA568204, AU146936, AL079894, AI889579, BF681363, AL009051, I34294, AC004971, AL034405, AI121928, AF111168, U78027, AI158824, AC004686, AC005913, AL133153, AC005005, AL121601, AC006241, AC007276, AC007199, AL021918, Z99127, AF165926, AC018639, AL008636, AC002429, AL078461, AC024561, Z81314, U52111, AC004167, AL499629, AC004217,

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HUSCJ14	495	894699	1 - 3328	15 - 3342	AL530386, AL530385, BE740541, BE793159, BE746303, BG111869, BE743225, BE740593, BE876261, AW025458, BE796028, BE872615, BE877735, BE744205, BF314587, BE378561, AW953416, BF965802, BG254323, AW964183, BE746753, BF981839, BG248382, BF340579, BE740789, BF697703, AV759552, BE395111, AI991200, BG178345, BE547992, BG180982,

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HUSGL67	496	792637	1 - 994	15 - 1008	

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HUSGU40	497	684975	1 - 1040	15 - 1054	M62405, AC005165, AC000049, U72496, AB032025, AC009803, AJ388512, AR096545, AX046357, Z49056, AR066494, AR073846, AR064706, A97211, AX003207, D14548, Y11449, I92483, AR038286, X68127, S70644, I03664, A15078, E00523, AR071572, AX006816, AF261964, D88984, I68636, AR008430, AR062871, AR072501, AR036905, AR072503, AR072502, Z96142, AX027925, A85477, AJ244003, AJ244004, A85396, AJ244005, AX046223, AX006823, X73004, I18371, A67220, AR025207, X58217, A91754, AX026821, AX020190, A95051, AR023813, AR031374, AR017907, AX006820, A38214, AX033488, A49700, Y17188, AR031375, AX001325, AX033489, AX001326, AX033490, A60957, AX001323, AX035632, AX001324, AX035630, A44171, AX035631, I56772, I95540, AX035629, AR018924, AX033474, D34614, AX033486, AX006819, AB037923, AX033487, A63067, A51047, A63064, AR018923, A02712, A48774, A63072, A58521, A98767, A48775, AR068507, I00074, AB050005, AR068506, A64081, AX006818, AR015960, I19516, AR080470, AR000007, AR015961, A93963, A93964, AR077142, I63120, AX011024, A92133, AX023549, A84772, A95052, AR020969, AX021518, A25909, AR043602, AR043603, I03665, AR079804, AR043601, A95117, AC069451, A18053, I06859, AX023555, AR095492, AX023554, A18050, AX009712, AR062872, AR083151, AX023550, A23334, A84776, A75888, I70384, AX023556, AJ279808, A84773, A84775, AX001322, I66495, A60111, A23633, AR062873, AX006817, AR088705, AR007512, A84774, AF019720, I66494, A60968, A23998, AX023552, AR095490, AR095491, AX008555, AX006821, AR067731, AX023547, I60241, AR037157, I60242, AR067732, I66498, I66497, I66496, AX023551, I66486, I66487, AF156296, and AX023546.
HUSIR18	498	762858	1 - 862	15 - 876	BF344689, AU152513, BF111708, AU152577, AI831632, AU148612, AI633716, AI954508, C06063, AW104595, AU154127, AI890453, AI032618, AA196963, AA938163, AI140920, N35131, AW057662, AI560774, AA400620, AI970846, AA694369, AA878004, AI243351,

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HUVDJ48	499	564853	1 - 1813	15 - 1827	AI479925, AV720735, AI886110, AF261918, and AB037733.
HWAAI12	500	830432	1 - 3289	15 - 3303	BE791748, BF343724, AU123861, BE407607, BG030881, BE733625, BE542200, BE395133, BE797955, AW373594, AW410034, AW377200, BE251609, BE537406, BG176636, AL519195, BG256260, AW377167, BE256071, AW851072, AA732801, AW937628, AW937627, BF591602, AA824368, AL515452, BE218566, BF448725, AA737886, AA578584, BF448230, AW605321, AW937480, BF312448, BE780638, BF333630, AW377149, AI949565, AW377147, AA706923, AW131610, AW851139, W63545, BE250915, BE218831, AI885326, AI798106, BF060746, AI141492, BG163905, AI692557, AI565975, AI494154, BF002067, AW937550, AI924364, BE257977, AA311609, AI651242, AW872781, BE046854, N79881, AI804100, AA130264, AA099596, AW851206, AW937594, BF594705, BF812261, BF812262, AA928648, AW292110, BG059676, BF803464, BF811969, AA515310, BF803463, BE278275, AI982551, T48384, AW071636, BF811971, AW904778, BE047141, AW002550, AW937578, AA761860, AI674942, BF803636, AI380164, AA725125, AA452210, AW006575, AW410033, W91959, AA568413, BF811972, AW937629, AW196802, AW937576, AA705486, AI201621, AI458023, AA251842, AA242968, AA310940, AI798893, AW364028, AA055668, N80285, AA243726, AA099076, AA128471, AA102468, BF811785, AA126318, AA775212, AI833155, AA242833, AI368944, AA326481, W91960, AA716496, BG150018, AI401147, AA326916, AW468307, AW248563, AI191566, AA731514, AA835828, AI633806, BF374003, AI193080, AA922538, AI360194, AA933709, AA733118, AW135318, T66077, AA991581, BE503904, AA251744, R61478, R62446, AI148912, BF381158, AA101004, AA969420, AI498861, AI638213, BE218897, AI989658, AI377222, AW952743, AA364062, AI248755, AI635058, BF223593, BF111533, AW083458, AI219764, F07126, AA002252, AA306675, N62976, BE468271, AI126347, AI735192, AA223160, BF589012, AA099075, AI637756, AI520929, R71788, F09228, AI735015, AI867103, BF525474, AA354442, AI203041, AA363972, H22046, H21984, AA309941, AA365502, W21421, AW193606, AW081027, R15809, AA877753, R15810, AL519196, AW028992, R25702, AI638189, R61479.

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HWBBQ70	501	689121	1 - 1934	15 - 1948	AI821165, AI732132, AI925730, AA598520, N64450, AI174416, BF094151, BE698760, AW748631, H58430, AI968112, AW242735, AW089864, AU119016, BE005209, AL031120, AC004552, AL139810, U66059, AL139232, AL445223, AC009470, AF009660, AC025765, Z80903, AL078605, AP000036, Z81007, AL157694, AL356962, AC011504, AC024239, AP001713, AL121875, U09822, AL023799, AL034377, AF285443, AP002027, AL109963, AL121771, AC005245, AP000099, AB020868, and AL445220.
HWBCN36	502	722259	1 - 994	15 - 1008	AL031296.
HWBDJ08	503	762860	1 - 2071	15 - 2085	BG029349, AW384103, AI653230, AW384082, AI719268, BG150070, AW404710, AW590965, AI952047, AW474522, BF514114, AA074214, AA770535, AI952951, AI138532, AA156247, AW474480, AV727834, AI655852, AI656352, AI424794, AI199860, BE867482, AI377297, AA885793, AW236695, AA909918, AI650687, AA632416, AA147540, BF896398, BF896399, AA205078, AA730888, AA709293, AW016441, AA906134, AI350684, BE243783, BE243699, AA074296, F29482, AW770135, AA971473, AI825691, AW818041, BE184408, BE244905, BG236422, AL048135, AW575000, U51144, AV738383, AL049245, AC083875, AC006050, AC004408, AL136443, AL008719, AL391259, AC007030, AC002416, AC004491, AP000696, AL034422, AC004966, AC003950, AL163285, AL133342, AP001726, Z94056, AL121781, AC022392, AF003627, U91323, AC006948, AC073316, Z84469, AL354889, AL360088, AB026898, AL135783, AL391122, U52111, AC004552, AC010789, AC004953, AL079303, AL049758, AC003046, AC004033, AL138752, AC005037, AC020913, AF029308, AL121656, AL356575, AC006443, AP001753, AC005912, AC006313, AF111168, AC008806, AL137787,

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HWBFX16	504	827312	1 - 1483	15 - 1497	AV713905, AV707132, BE439407, AV716235, BE889902, BE439879, AV755351, AV702035, AV703864, AV718325, AV703442, AV757364, AV703133, AV705730, AV715473, AV725234, AV701200, AV717675, AV653887, AV707916, AV716871, AV704583, AV755361, AI061586, AV711457, AV714577, BE440168, AV705444, BE870844, AV704942, AV707474, AI110678, AV704487, AV755833, AV757021, AV691633, AV729917, AV704554, AV706918, AV705553, AV703439, AV757138, AV710273, AV728009, AV704634, AV693397, AV697029, AV705594, AV715731, AV757810, AV702679, AV722560, AV729391, AV706984, AV729894, AV703872, AV703200, AV725657, AV722875, AV726910, AV646046, BE896539, AV720398, AV708253, AV691628, AV706251, AV649260, AV701762, AV702740, AV709387, AV690476, AV726936, AV722970, AV709311, AV714358, AV715349, AV756640, AV704910, AV728892, AV689963, AV698374, AV756718, AV723005, AV702375, AV724863, AV729915, BE885264, AV698289, AV728599, BE895037, AV701566, AV705666, AV710693, AV705849, AI061658, BE897050, AV709213, AI133246, AL513649, AU123989, AV710576, BE898942, AV724879, AV715365, AV721605, AV704443, AV726724, AV711372, AV704601, AV755853, BG254216, AV727198, AV751353, AV705781, AV761023, AV716906, AV701164, AV756333, AU124316, AV710741, BE872110, AV718288, AV755862, AV702654, AW161643, AV701857, AV699924, BE870666, AV703104, AV727096, AV757921, BG114398, AV718215, AV700172, AV725134, AV704842, AV725922, AV684242, AV696266, AV709942, AV734791, AV753034, AV654712, AV658754, BE880009, AV705804, AV718542, BE158279,

				AV724806, AV700280, AV700748, AV722085, AV709261, AV701900, BE963256, AV693797, AV757370, AV716212, AV711078, AV700402, AV757208, AV694927, AV714179, AV701863, AV699497, AV716016, AL037474, AV705802, BE871855, BE879153, AV692917, BE439567, BE889421, AV723291, AV756974, AW157026, BE677491, AV725505, BE875575, BE880299, BE874075, AV727783, AL516585, BE895922, AV758344, AV700799, AV708339, AV763789, BE161858, BE169292, AV727916, AV716488, AV715385, AV758749, AV723612, AV722946, AV689316, BE042725, AV759318, AV710685, BE880489, AV713545, BE878917, AV715270, AV714305, AV756712, AV716270, AV721207, AV711524, AU128553, AV708673, BE898618, AA099002, AV757942, AV721797, BE816802, AI499067, AI983822, BE816803, BE899497, AV748313, AI114451, AI525757, AV716546, AL047741, AV719162, AV741611, AV707652, BE816776, AI921008, AI683759, AV707353, AI889478, BE167247, AI922568, AU122812, AV758478, AV756017, AA220989, AV708540, AA196173, AV701679, BE892071, BE826257, AI057519, AV711697, AV755208, AW058235, BE898159, AV728520, AC002091, AK025644, AK000348, AK026634, AK026170, D50525, D38112, V00710, X62996, AX039612, V00662, X93334, AR028448, AB004064, D38113, X93335, AB050151, AB050148, AB050150, AB050149, D38116, AB050147, AB050155, D38114, AB050153, X93347, AR086351, AB050154, AB050152, D38115, AB050171, AB050161, AB050170, AB050188, AB050159, AB050156, AB050160, AB050190, AR051474, AB050158, X97707, AB050166, AB050157, AB050186, AB050169, AB050192, AB050189, AB050162, AB050191, AB050168, AB050164, AB050167, AB050165, AB050173, AB050175, AB050172, AB050181, AB050174, AB049472, AB050176, X99256, AB050187, AB050178, AB050183, AB050163, AB050182, AB050184, AB050180, AB050177, AB050179, AB049471, AB048880, Y18001, AB050185, X99189, AR051472, AF203727, S75063, AJ001588, AB033608, AJ010816, U97339, M86499, Y07726, X97336, AJ010814, AF263218, M86498, AF304201, AJ002189, AB016075, M35875, AF217811, AF304202, AF304203, AF034253, AB016076, X72204, AJ010812, AB032842, M86501, AF058292, AF304200, M55540, U97343,
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					X61145, J01394, AF069539, AF179290, V00654, X88898, AC004979, U97338, Y18475, AF010406, AJ277029, AF179289, AF263222, AF263233, AF029308, S75317, M86495, U39004, AF179288, M86493, AF263229, M86496, AF203738, X72004, AF263230, AF069537, AJ010815, Y19192, AF069538, Y19184, AF069533, M35877, AF069535, M86494, AF321050, AF293645, AF293646, U66061, AF293641, M35874, AF203726, AF263216, AF263231, AF263232, AJ010817, X63726, M86497, M55539, AF069536, M86500, U39012, U20753, AF076646, AF263214, Y11832, AF263215, AF293640, AF203739, AF203774, M55541, U63505, AF263219, AB032843, U97336, Z54552, U63486, AF203743, AB042770, AF293643, X79547, AF069534, AF263220, AF203742, Z54553, AF263217, U97340, AF293644, Z60381, M35876, U63487, AF069540, AF293650, X97337, AF179291, Z62861, AF203741, U97337, AJ010957, AJ010813, AF089815, AF187888, Z62860, AF293642, U97335, AF203740, U20754, V00665, L35585, AF293649, AF263224, AF263223, AF293647, AF203744, U39007, AF293648, L07095, AF263225, AF263226, AF004338, AB042524, AB042809, AF203773, AJ222767, V00711, AB042523, AB042432, AB049357, L07096, AJ224821, AF102808, U39005, Z62093, Z57443, Z65548, U96639, AF027999, AF187889, AF263221, AF166345, AF028000, AF102810, AF166346, AF027994, AF263227, AF187885, U97341, AF263228, AF061340, AF263213, and Y10947.
HWDAC26	505	821335	1 - 1944	15 - 1958	AI569079, AW069247, AI753828, AI865591, AI954109, W47496, AW023828, AI141750, AA769937, AA650548, AW016594, AW575631, AW016129, AA846081, AW576019, AW022937, AW613772, AA814485, AI081142, AV692488, AW770002, AI079440, AI079426, AV725900, AA846439, AA620438, AA131231, AW020734, AW576115, BE439853, AV712964, AI831067, AW104632, AV714923, AI092300, AV714439, AI937843, AI499645, AW328434, AV682787, AV707234, BG180634, AI086700, AV715745, AA890458, AV733357, AW574637, AI167342, AW575577, AA845479, AV715758, AV654078, AW264782, BG109191, AV701343, AW162433, AW591729, AV699205, AI929801, AI917254, AA758726, AV716243, AA620745, AV736660, AI718209, AW163199, AI879416, AW157051, BF245586, AI831096, AA845982, AI208148, AI918625, BE888840, R06276, AW575354, W37886, AI287896, AI446024, AA983344, AI357019, AI866680, AA156113, AI270415, AA805556, AV698742, AV693660,

					BE910138, AA860503, AW193538, AW129500, AI860930, BG236388, AW275853, AI830226, AA984928, AV652818, W94249, AW243935, AI673396, BF244321, AI865005, AI356933, AV713525, AI929556, N99095, AA854761, AI066651, AI126823, T59402, AI816511, W42492, AV717111, AW664285, AI285765, AV716573, AI816004, AV717321, AA725401, AA845275, AI079591, AV757448, AI281631, AA169591, AW157638, AI082058, AI625443, H88070, AI689693, AW151111, AI335993, AI075418, AI598168, AI802736, BG166945, AI469322, AI074786, AV715396, AV717492, AA622660, AI879704, AW162206, AA669402, AV717651, AI689523, AI689670, AV714613, AW162290, AW189201, AI815820, AI816168, AV711701, AI066677, AI699034, AW050807, AA961388, AI050786, AA129992, AA961385, AW247115, AI086957, AI279407, AI358503, AV713841, AI363769, AA036830, AV715870, BG178773, AI253553, AI092686, W47486, T40823, AA485263, AW162675, AW162349, AI561101, AW518479, AA188301, T92747, AW168282, AA668899, AW245055, AI285669, AW157410, BF590289, AW161998, AV755317, AA911615, W45057, AW237191, AW027171, W45645, AI985873, AC004947, AL136166, AC008014, AC009501, AC013734, AL078604, AE000659, AC004554, AC004470, AC006203, AL022399, AP002532, AL445123, AL354861, AC036103, AC011666, AC002527, and AC025226.
HWDAG96	506	796743	1 - 1133	15 - 1147	AL522593, AL522592, BE799217, BE740738, AI201228, BE795925, BE562443, BE743793, BG109526, BE791305, BE900140, BF345517, BE902125, BF795213, BE790689, BE794060, BF338321, BE738452, BF527404, BF526824, BE439557, BG166753, BE794045, BE792511, BF310127, BE253614, BF311818, BE791316, BE275387, AI079882, BF965870, BF026388, BE797881, BF981815, BE538994, BG031600, BF026844, BF026633, BG117415, BE901950, BF315936, BE614201, BE866942, BE562643, BF685065, BG106675, BE546041, BE736339, BE613974, BG251009, BE892480, BF344615, BF797325, BE895270, BE742892, BE728039, BE548966, AV701810, AI922886, BE384539, BE386289, BF316985, BF306588, BE871011, BF308806, BG024473, AW340716, BF685108, BE747734, BE894962, BF794101, BE729623, BE250421, BE889434, BF308881, BF663988, BE385561, BF314429, BE890502, BF314697, BE743206, BE732924, BF668009, BE615064, AI017309, BG108305, BF196358, BF204815, BE743379, BF964987, BE385562, BE539549, BE407871, BE408624, BE312817, BE255209, BF206244, BE737846, BF308152,

					BE388146, BE250688, BF310673, BF306809, BE259998, BE882143, BE895180, AV760863, BE208454, BE256439, BE277486, BE868652, BE272183, BE389607, BE868362, BE266581, BG179956, BE729111, BF312578, BE276494, BE278534, BF344250, BE294405, BF244552, BE394996, BE548674, AL537456, BF382987, AI813493, BE515170, BE393075, AV645357, AA910810, BF032160, BF975078, BE790630, BE894241, BF337511, BE742876, AV645356, BG165641, BE390890, BE905370, BF212566, AW731900, BF245971, BE566237, BE615889, BF030763, AV706052, BE540756, BF316526, AV742830, AA902706, BE387082, AA541699, AA306648, BE294677, AA724942, AW051833, W17313, BE408746, AV736457, BF805976, AI151354, AI150347, AA513391, AI366090, AA716230, AA938562, BE728359, AI375297, AI092701, AA314351, AI148514, AI186184, AI017019, AA782170, BE795030, AI341879, AI460048, BE794461, AI138626, AA397814, AI126828, BF026587, W52525, AA428243, BF029236, AI151363, BE791124, AA889908, AI161421, AI074866, T31448, AI193908, AW068247, AI354833, BF701145, W52932, BE002055, AW630979, AV739902, AI935217, N47236, AL036007, AI147311, BF244826, BF312357, AI688422, AW057978, N47235, AV736120, AV744883, AW651642, BF875093, N35702, AI334241, BF108832, AA845402, W57987, N35146, AA845509, N46834, BE254153, AV735680, AV743959, H99937, AV737779, AV711040, AW937299, AA263070, AI208515, AI244000, AA179882, BF530501, BE897982, AV739758, AA516009, AA143423, AA502717, BE735521, R75634, BF879357, AV711355, AI934966, D83873, AA126430, AA420852, AV738018, AW068156, AF047433, Y11435, AF022229, AF141872, AL121753, AF047046, AF108462, AX017847, Y11460, AF081140, T59706, R48614, R75737, H26572, H26579, H87499, H90425, H90481, H91724, N42132, N43897, N47153, N78941, W17023, W32796, W58071, W84756, W84761, N89629, AA063253, AA070136, AA070135, AA088478, AA088477, AA126574, AA132550, AA132673, AA143424, AA147068, AA147126, AA157980, AA158426, AA180279, AA181820, AA186626, AA186916, and AA430427.
HWDAJ01	507	794016	1 - 767	15 - 781	
HWHPB78	508	740778	1 - 1332	15 - 1346	AA004226, AA007259, AW071800, AW337233, BF684823, BE560744, AU143103, BF981277, AL528300, BE890251, AL525528, BE561304, AL534641, AW812566, AI198256, AL523832, AL527753, BE513546, AW812538, BE019389, BE560550, BE295978, BE410204, BE396701, BE397300, BF311702, BE734414, BE407616,

					<p>AW390317, BF311227, BF125626, AA564034, AW732876, BE900601, AU130458, BE884575, BF206225, BE260519, BF218274, AL043160, BG116256, BE281524, Z41929, BE398062, BE251451, BE560915, BF317183, BE939837, H12990, H23167, BE780064, AA172145, BE312987, BG166994, BE314032, BE312450, BE390267, BE559942, AL120269, BG034775, BF315481, AB033099, AK024028, AK001571, AC004799, and AC007421.</p>
HYABC84	509	789854	1 - 1324	15 - 1338	<p>BE619984, BG180257, BE546940, AW953562, BE538846, AA524254, AW978620, AW970777, AW001609, BG253753, AI1798108, AU159275, AU148477, AA524480, AA476556, BE795721, AW027610, BE871790, BE207925, AW166935, AW291597, AL521960, AI934516, AU149354, AW974311, N32579, AI186348, AI597811, AI692241, AI689448, AW152379, AA443023, AI271524, AI093466, AI149215, AI870536, AI432467, AA781886, AA854903, AI744310, AI199164, BF725035, AL043754, AI372057, AI269272, AW770362, AA399350, AA463464, AA812239, AI367106, W48832, AW516985, AW151757, AW571473, AI086901, AW514611, AI079461, BE206384, AA292378, AI269712, AA934644, AW189899, AW297040, AA588341, AW166860, AA676478, N70058, AA126131, AW055258, AA916656, AI874191, BE829256, AW083905, AW664480, AA427894, AA843278, AA453450, AW194056, AI687474, AI126745, AA620899, BE964404, W49813, AA860641, AI692799, BE676833, AA306455, AA292016, AI015326, T63718, AW236228, AW304861, AW772846, AW468035, AW662269, AA226903, AW090569, AA304032, AA915898, R56660, AA293296, AA047874, H28877, AW076091, AA482627, BE619316, R50813, AI674616, AA598596, BF926901, AA482480, AA045575, R68388, W37626, H01650, N59135, AW364253, N23722, AL045883, AA908894, BF244825, Z40636, R38774, R68593, AV708320, AI474604, R47766, AI611825, AA022933, AA888168, F03832, C04718, AA534374, R50403, R56826, R81871, T33719, AW050454, AW731635, AI569605, BF737093, AI648412, T06476, AI611777, F01530, D54185, AA902145, AA338785, Z25279, F00464, BE241564, AW294418, AI627173, AV743083, AA084935, N75173, BE297735, H28878, N41917, AA094149, Z44868, AI261764, AA449769, AA428005, T63873, AI885556, W37625, F07587, BE710635, BE617105, BF343238, AI539260, AI862067, AI621341, AI691131, AI590043, AI435253, AL041862, BE546870, AI537516, AW410259,</p>

				AI633000, AW008071, AW834282, BF814527, AI590781, AW051088, AI473536, AI698391, AI696603, AI927233, AI521136, AL046466, AI473208, AI688853, BF764539, AL121365, AA928539, AI147877, AI918809, AW161156, BE906419, AI860027, BF793748, AA587120, AW084184, AI633009, BE252263, AR062110, AL117480, AL096738, AF055022, AL132825, AF130458, AR069619, AF130459, AF130460, AK000285, AL389935, I32738, A08456, A31057, I89947, AF116682, Z82022, M96857, AR038854, E06788, E06790, A77033, A77035, E06789, X60769, AF060555, AF111849, AL049430, AK026356, AF126247, Y16645, Y10936, E03671, X89602, AL080139, AL137254, E06743, X66871, AK024858, AL133113, AF130105, AF130082, AL050155, A08912, AL137533, A08911, AB049849, AB047623, AF172400, AF124728, Z97214, AX015915, AL133665, AL133560, X61970, AK024992, AK000645, S76508, X53777, L04849, A26498, L04852, AL117587, Z13966, AK025435, and AF254119.
HYABC84	510	865064	1 - 1464	15 - 1478 BE619984, BG180257, BG253753, BE546940, BE795721, BE871790, BE538846, AW953562, AA524254, AW978620, AW970777, AW001609, AI798108, AU159275, AU148477, AA524480, AA476556, AW027610, BE207925, AW166935, AL521960, AI934516, AU149354, AW291597, AW974311, AA443023, AI186348, AI597811, AI692241, N32579, BE619316, AI689448, AW152379, AI271524, AI093466, AI870536, AI149215, AI432467, AA854903, AA781886, AI199164, AI744310, AL043754, AI372057, BF725035, AI269272, AW770362, AA399350, AI367106, AA463464, AA812239, AW516985, W48832, AW151757, AI086901, AW571473, AW514611, AA292378, AI079461, BE206384, AA934644, AI269712, AW189899, AA588341, AA676478, AA126131, AW055258, AW166860, N70058, AA916656, AI874191, AW297040, AW083905, AW664480, AA427894, AA453450, AA843278, AI687474, AA620899, W49813, AA860641, AI692799, BE676833, AA306455, AA292016, T63718, AW236228, AW304861, AW772846, AW468035, BE964404, AI015326, AW662269, AA226903, AW090569, AA304032, AA915898, R56660, AW194056, AA293296, AA047874, H28877, AW076091, AI126745, AA482627, R50813, AA482480, AI674616, BF926901, AA045575, R68388, W37626, H01650, AA598596, AW364253, N59135, AL045883, N23722, AA908894, Z40636, R38774, R68593, AV708320, AI474604, R47766, AI611825, AA022933, BE829256,

					BF244825, AA888168, F03832, C04718, AA534374, BE297735, R50403, R56826, R81871, T33719, AI569605, N41917, AW731635, AW050454, BF737093, Z44868, AI648412, T06476, AA428005, W37625, BF893080, BF820895, BF769768, F07587, F01530, D54185, AI611777, AA902145, AA338785, Z25279, BE617105, F00464, AA084935, BE241564, R10512, AI627173, BE252263, AA022983, AV743083, BE940174, N75173, BE929227, H28878, AA094149, AW294418, AI261764, AA449769, T63873, AI885556, AA775981, BE710635, BE936751, AR062110, AL117480, AL132825, AF055022, AL096738, AF130458, AR069619, AF130459, and AF130460.
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TABLE 4

Code	Description	Tissue	Organ	Cell Line	Disease	Vector
AR022	a_Heart	a_Heart				
AR023	a_Liver	a_Liver				
AR024	a_mammary gland	a_mammary gland				
AR025	a_Prostate	a_Prostate				
AR026	a_small intestine	a_small intestine				
AR027	a_Stomach	a_Stomach				
AR028	Blood B cells	Blood B cells				
AR029	Blood B cells activated	Blood B cells activated				
AR030	Blood B cells resting	Blood B cells resting				
AR031	Blood T cells activated	Blood T cells activated				
AR032	Blood T cells resting	Blood T cells resting				
AR033	brain	brain				
AR034	breast	breast				
AR035	breast cancer	breast cancer				
AR036	Cell Line CAOV3	Cell Line CAOV3				
AR037	cell line PA-1	cell line PA-1				
AR038	cell line transformed	cell line transformed				
AR039	colon	colon				
AR040	colon (9808co65R)	colon (9808co65R)				
AR041	colon (9809co15)	colon (9809co15)				
AR042	colon cancer	colon cancer				
AR043	colon cancer (9808co64R)	colon cancer (9808co64R)				
AR044	colon cancer 9809co14	colon cancer 9809co14				
AR045	corn clone 5	corn clone 5				
AR046	corn clone 6	corn clone 6				
AR047	corn clone2	corn clone2				
AR048	corn clone3	corn clone3				
AR049	Corn Clone4	Corn Clone4				
AR050	Donor II B Cells 24hrs	Donor II B Cells 24hrs				
AR051	Donor II B Cells 72hrs	Donor II B Cells 72hrs				
AR052	Donor II B-Cells 24 hrs.	Donor II B-Cells 24 hrs.				
AR053	Donor II B-Cells 72hrs	Donor II B-Cells 72hrs				
AR054	Donor II Resting B Cells	Donor II Resting B Cells				
AR055	Heart	Heart				
AR056	Human Lung (clonotech)	Human Lung (clonotech)				
AR057	Human Mammary (clonotech)	Human Mammary (clonotech)				
AR058	Human Thymus	Human Thymus				

	(clonotech)	(clonotech)				
AR059	Jurkat (unstimulated)	Jurkat (unstimulated)				
AR060	Kidney	Kidney				
AR061	Liver	Liver				
AR062	Liver (Clontech)	Liver (Clontech)				
AR063	Lymphocytes chronic lymphocytic leukaemia	Lymphocytes chronic lymphocytic leukaemia				
AR064	Lymphocytes diffuse large B cell lymphoma	Lymphocytes diffuse large B cell lymphoma				
AR065	Lymphocytes follicular lymphoma	Lymphocytes follicular lymphoma				
AR066	normal breast	normal breast				
AR067	Normal Ovarian (4004901)	Normal Ovarian (4004901)				
AR068	Normal Ovary 9508G045	Normal Ovary 9508G045				
AR069	Normal Ovary 9701G208	Normal Ovary 9701G208				
AR070	Normal Ovary 9806G005	Normal Ovary 9806G005				
AR071	Ovarian Cancer	Ovarian Cancer				
AR072	Ovarian Cancer (9702G001)	Ovarian Cancer (9702G001)				
AR073	Ovarian Cancer (9707G029)	Ovarian Cancer (9707G029)				
AR074	Ovarian Cancer (9804G011)	Ovarian Cancer (9804G011)				
AR075	Ovarian Cancer (9806G019)	Ovarian Cancer (9806G019)				
AR076	Ovarian Cancer (9807G017)	Ovarian Cancer (9807G017)				
AR077	Ovarian Cancer (9809G001)	Ovarian Cancer (9809G001)				
AR078	ovarian cancer 15799	ovarian cancer 15799				
AR079	Ovarian Cancer 17717AID	Ovarian Cancer 17717AID				
AR080	Ovarian Cancer 4004664B1	Ovarian Cancer 4004664B1				
AR081	Ovarian Cancer 4005315A1	Ovarian Cancer 4005315A1				
AR082	ovarian cancer 94127303	ovarian cancer 94127303				
AR083	Ovarian Cancer 96069304	Ovarian Cancer 96069304				
AR084	Ovarian Cancer 9707G029	Ovarian Cancer 9707G029				
AR085	Ovarian Cancer 9807G045	Ovarian Cancer 9807G045				
AR086	ovarian cancer 9809G001	ovarian cancer 9809G001				
AR087	Ovarian Cancer 9905C032RC	Ovarian Cancer 9905C032RC				
AR088	Ovarian cancer 9907 C00 3rd	Ovarian cancer 9907 C00 3rd				
AR089	Prostate	Prostate				
AR090	Prostate (clonotech)	Prostate (clonotech)				
AR091	prostate cancer	prostate cancer				
AR092	prostate cancer #15176	prostate cancer				

		#15176				
AR093	prostate cancer #15509	prostate cancer #15509				
AR094	prostate cancer #15673	prostate cancer #15673				
AR095	Small Intestine (Clontech)	Small Intestine (Clontech)				
AR096	Spleen	Spleen				
AR097	Thymus T cells activated	Thymus T cells activated				
AR098	Thymus T cells resting	Thymus T cells resting				
AR099	Tonsil	Tonsil				
AR100	Tonsil germinal center centroblast	Tonsil germinal center centroblast				
AR101	Tonsil germinal center B cell	Tonsil germinal center B cell				
AR102	Tonsil lymph node	Tonsil lymph node				
AR103	Tonsil memory B cell	Tonsil memory B cell				
AR104	Whole Brain	Whole Brain				
AR105	Xenograft ES-2	Xenograft ES-2				
AR106	Xenograft SW626	Xenograft SW626				
AR119	001: IL-2	001: IL-2				
AR120	001: IL-2.1	001: IL-2.1				
AR121	001: IL-2_b	001: IL-2_b				
AR124	002: Monocytes untreated (1hr)	002: Monocytes untreated (1hr)				
AR125	002: Monocytes untreated (5hrs)	002: Monocytes untreated (5hrs)				
AR126	002: Control 1C	002: Control 1C				
AR127	002: IL2 1C	002: IL2 1C				
AR130	003: Placebo-treated Rat Lacrimal Gland	003: Placebo-treated Rat Lacrimal Gland				
AR131	003: Placebo-treated Rat Submandibular Gland	003: Placebo-treated Rat Submandibular Gland				
AR135	004: Monocytes untreated (5hrs)	004: Monocytes untreated (5hrs)				
AR136	004: Monocytes untreated 1hr	004: Monocytes untreated 1hr				
AR139	005: Placebo (48hrs)	005: Placebo (48hrs)				
AR140	006: pC4 (24hrs)	006: pC4 (24hrs)				
AR141	006: pC4 (48hrs)	006: pC4 (48hrs)				
AR152	007: PHA(1hr)	007: PHA(1hr)				
AR153	007: PHA(6HRS)	007: PHA(6HRS)				
AR154	007: PMA(6hrs)	007: PMA(6hrs)				
AR155	008: 1449_#2	008: 1449_#2				
AR161	01: A - max 24	01: A - max 24				
AR162	01: A - max 26	01: A - max 26				
AR163	01: A - max 30	01: A - max 30				
AR164	01: B - max 24	01: B - max 24				
AR165	01: B - max 26	01: B - max 26				
AR166	01: B - max 30	01: B - max 30				
AR167	1449 Sample	1449 Sample				
AR168	3T3P10 1.0uM insulin	3T3P10 1.0uM insulin				
AR169	3T3P10 10nM Insulin	3T3P10 10nM				

		Insulin				
AR170	3T3P10 10uM insulin	3T3P10 10uM insulin				
AR171	3T3P10 No Insulin	3T3P10 No Insulin				
AR172	3T3P4	3T3P4				
AR173	Adipose (41892)	Adipose (41892)				
AR174	Adipose Diabetic (41611)	Adipose Diabetic (41611)				
AR175	Adipose Diabetic (41661)	Adipose Diabetic (41661)				
AR176	Adipose Diabetic (41689)	Adipose Diabetic (41689)				
AR177	Adipose Diabetic (41706)	Adipose Diabetic (41706)				
AR178	Adipose Diabetic (42352)	Adipose Diabetic (42352)				
AR179	Adipose Diabetic (42366)	Adipose Diabetic (42366)				
AR180	Adipose Diabetic (42452)	Adipose Diabetic (42452)				
AR181	Adipose Diabetic (42491)	Adipose Diabetic (42491)				
AR182	Adipose Normal (41843)	Adipose Normal (41843)				
AR183	Adipose Normal (41893)	Adipose Normal (41893)				
AR184	Adipose Normal (42452)	Adipose Normal (42452)				
AR185	Adrenal Gland	Adrenal Gland				
AR186	Adrenal Gland + Whole Brain	Adrenal Gland + Whole Brain				
AR187	B7(1hr)+ (inverted)	B7(1hr)+ (inverted)				
AR188	Breast (18275A2B)	Breast (18275A2B)				
AR189	Breast (4004199)	Breast (4004199)				
AR190	Breast (4004399)	Breast (4004399)				
AR191	Breast (4004943B7)	Breast (4004943B7)				
AR192	Breast (4005570B1)	Breast (4005570B1)				
AR193	Breast Cancer (4004127A30)	Breast Cancer (4004127A30)				
AR194	Breast Cancer (400443A21)	Breast Cancer (400443A21)				
AR195	Breast Cancer (4004643A2)	Breast Cancer (4004643A2)				
AR196	Breast Cancer (4004710A7)	Breast Cancer (4004710A7)				
AR197	Breast Cancer (4004943A21)	Breast Cancer (4004943A21)				
AR198	Breast Cancer (400553A2)	Breast Cancer (400553A2)				
AR199	Breast Cancer (9805C046R)	Breast Cancer (9805C046R)				
AR200	Breast Cancer (9806C012R)	Breast Cancer (9806C012R)				
AR201	Breast Cancer (ODQ 45913)	Breast Cancer (ODQ 45913)				
AR202	Breast Cancer (ODQ45913)	Breast Cancer (ODQ45913)				
AR203	Breast Cancer (ODQ4591B)	Breast Cancer (ODQ4591B)				
AR204	Colon Cancer (15663)	Colon Cancer				

		(15663)				
AR205	Colon Cancer (4005144A4)	Colon Cancer (4005144A4)				
AR206	Colon Cancer (4005413A4)	Colon Cancer (4005413A4)				
AR207	Colon Cancer (4005570B1)	Colon Cancer (4005570B1)				
AR208	Control RNA #1	Control RNA #1				
AR209	Control RNA #2	Control RNA #2				
AR210	Cultured Preadipocyte (blue)	Cultured Preadipocyte (blue)				
AR211	Cultured Preadipocyte (Red)	Cultured Preadipocyte (Red)				
AR212	Donor II B-Cells 24hrs	Donor II B-Cells 24hrs				
AR213	Donor II Resting B-Cells	Donor II Resting B-Cells				
AR214	H114EP12 10nM Insulin	H114EP12 10nM Insulin				
AR215	H114EP12 (10nM insulin)	H114EP12 (10nM insulin)				
AR216	H114EP12 (2.6ug/ul)	H114EP12 (2.6ug/ul)				
AR217	H114EP12 (3.6ug/ul)	H114EP12 (3.6ug/ul)				
AR218	HUVEC #1	HUVEC #1				
AR219	HUVEC #2	HUVEC #2				
AR221	L6 undiff.	L6 undiff.				
AR222	L6 Undifferentiated	L6 Undifferentiated				
AR223	L6P8 + 10nM Insulin	L6P8 + 10nM Insulin				
AR224	L6P8 + HS	L6P8 + HS				
AR225	L6P8 10nM Insulin	L6P8 10nM Insulin				
AR226	Liver (00-06-A007B)	Liver (00-06-A007B)				
AR227	Liver (96-02-A075)	Liver (96-02-A075)				
AR228	Liver (96-03-A144)	Liver (96-03-A144)				
AR229	Liver (96-04-A138)	Liver (96-04-A138)				
AR230	Liver (97-10-A074B)	Liver (97-10-A074B)				
AR231	Liver (98-09-A242A)	Liver (98-09-A242A)				
AR232	Liver Diabetic (1042)	Liver Diabetic (1042)				
AR233	Liver Diabetic (41616)	Liver Diabetic (41616)				
AR234	Liver Diabetic (41955)	Liver Diabetic (41955)				
AR235	Liver Diabetic (42352R)	Liver Diabetic (42352R)				
AR236	Liver Diabetic (42366)	Liver Diabetic (42366)				
AR237	Liver Diabetic (42483)	Liver Diabetic (42483)				
AR238	Liver Diabetic (42491)	Liver Diabetic (42491)				
AR239	Liver Diabetic (99-09-A281A)	Liver Diabetic (99-09-A281A)				

AR240	Lung	Lung				
AR241	Lung (27270)	Lung (27270)				
AR242	Lung (2727Q)	Lung (2727Q)				
AR243	Lung Cancer (4005116A1)	Lung Cancer (4005116A1)				
AR244	Lung Cancer (4005121A5)	Lung Cancer (4005121A5)				
AR245	Lung Cancer (4005121A5))	Lung Cancer (4005121A5))				
AR246	Lung Cancer (4005340A4)	Lung Cancer (4005340A4)				
AR247	Mammary Gland	Mammary Gland				
AR248	Monocyte (CT)	Monocyte (CT)				
AR249	Monocyte (OCT)	Monocyte (OCT)				
AR250	Monocytes (CT)	Monocytes (CT)				
AR251	Monocytes (INFG 18 hr)	Monocytes (INFG 18 hr)				
AR252	Monocytes (INFG 18hr)	Monocytes (INFG 18hr)				
AR253	Monocytes (INFG 8-11)	Monocytes (INFG 8-11)				
AR254	Monocytes (O CT)	Monocytes (O CT)				
AR255	Muscle (91-01-A105)	Muscle (91-01- A105)				
AR256	Muscle (92-04-A059)	Muscle (92-04- A059)				
AR257	Muscle (97-11-A056d)	Muscle (97-11- A056d)				
AR258	Muscle (99-06-A210A)	Muscle (99-06- A210A)				
AR259	Muscle (99-07-A203B)	Muscle (99-07- A203B)				
AR260	Muscle (99-7-A203B)	Muscle (99-7- A203B)				
AR261	Muscle Diabetic (42352R)	Muscle Diabetic (42352R)				
AR262	Muscle Diabetic (42366)	Muscle Diabetic (42366)				
AR263	NK-19 Control	NK-19 Control				
AR264	NK-19 IL Treated 72hrs	NK-19 IL Treated 72hrs				
AR265	NK-19 UK Treated 72 hrs.	NK-19 UK Treated 72 hrs.				
AR266	Omentum Normal (94-08-B009)	Omentum Normal (94-08- B009)				
AR267	Omentum Normal (97-01-A039A)	Omentum Normal (97-01- A039A)				
AR268	Omentum Normal (97-04-A114C)	Omentum Normal (97-04- A114C)				
AR269	Omentum Normal (97-06-A117C)	Omentum Normal (97-06- A117C)				
AR270	Omentum Normal (97-09-B004C)	Omentum Normal (97-09- B004C)				
AR271	Ovarian Cancer (17717AID)	Ovarian Cancer (17717AID)				
AR272	Ovarian Cancer (9905C023RC)	Ovarian Cancer (9905C023RC)				
AR273	Ovarian Cancer (9905C032RC)	Ovarian Cancer (9905C032RC)				

AR274	Ovary (9508G045)	Ovary (9508G045)				
AR275	Ovary (9701G208)	Ovary (9701G208)				
AR276	Ovary 9806G005	Ovary 9806G005				
AR277	Pancreas	Pancreas				
AR278	Placebo	Placebo				
AR279	rIL2 Control	rIL2 Control				
AR280	RSS288L	RSS288L				
AR281	RSS288LC	RSS288LC				
AR282	Salivary Gland	Salivary Gland				
AR283	Skeletal Muscle	Skeletal Muscle				
AR284	Skeletal Muscle (91-01-A105)	Skeletal Muscle (91-01-A105)				
AR285	Skeletal Muscle (42180)	Skeletal Muscle (42180)				
AR286	Skeletal Muscle (42386)	Skeletal Muscle (42386)				
AR287	Skeletal Muscle (42461)	Skeletal Muscle (42461)				
AR288	Skeletal Muscle (91-01-A105)	Skeletal Muscle (91-01-A105)				
AR289	Skeletal Muscle (92-04-A059)	Skeletal Muscle (92-04-A059)				
AR290	Skeletal Muscle (96-08-A171)	Skeletal Muscle (96-08-A171)				
AR291	Skeletal Muscle (97-07-A190A)	Skeletal Muscle (97-07-A190A)				
AR292	Skeletal Muscle Diabetic (42352)	Skeletal Muscle Diabetic (42352)				
AR293	Skeletal Muscle Diabetic (42366)	Skeletal Muscle Diabetic (42366)				
AR294	Skeletal Muscle Diabetic (42395)	Skeletal Muscle Diabetic (42395)				
AR295	Skeletal Muscle Diabetic (42483)	Skeletal Muscle Diabetic (42483)				
AR296	Skeletal Muscle Diabetic (42491)	Skeletal Muscle Diabetic (42491)				
AR297	Skeletal Muscle Diabetic 42352	Skeletal Muscle Diabetic 42352				
AR298	Skeletal Muscle (42461)	Skeletal Muscle (42461)				
AR299	Small Intestine	Small Intestine				
AR300	Stomach	Stomach				
AR301	T-Cell + HDPBQ71.fc 1449 16hrs	T-Cell + HDPBQ71.fc 1449 16hrs				
AR302	T-Cell + HDPBQ71.fc 1449 6hrs	T-Cell + HDPBQ71.fc 1449 6hrs				
AR303	T-Cell + IL2 16hrs	T-Cell + IL2 16hrs				
AR304	T-Cell + IL2 6hrs	T-Cell + IL2 6hrs				
AR306	T-Cell Untreated 16hrs	T-Cell Untreated 16hrs				
AR307	T-Cell Untreated 6hrs	T-Cell Untreated 6hrs				
AR308	T-Cells 24 hours	T-Cells 24 hours				
AR309	T-Cells 24 hrs	T-Cells 24 hrs				
AR310	T-Cells 24 hrs.	T-Cells 24 hrs.				
AR311	T-Cells 24hrs	T-Cells 24hrs				
AR312	T-Cells 4 days	T-Cells 4 days				
AR313	Thymus	Thymus				
AR314	TRE	TRE				

AR315	TREC	TREC				
AR316	Virtual Mixture	Virtual Mixture				
H0002	Human Adult Heart	Human Adult Heart	Heart			Uni-ZAP XR
H0003	Human Adult Liver	Human Adult Liver	Liver			Uni-ZAP XR
H0004	Human Adult Spleen	Human Adult Spleen	Spleen			Uni-ZAP XR
H0008	Whole 6 Week Old Embryo					Uni-ZAP XR
H0009	Human Fetal Brain					Uni-ZAP XR
H0011	Human Fetal Kidney	Human Fetal Kidney	Kidney			Uni-ZAP XR
H0012	Human Fetal Kidney	Human Fetal Kidney	Kidney			Uni-ZAP XR
H0013	Human 8 Week Whole Embryo	Human 8 Week Old Embryo	Embryo			Uni-ZAP XR
H0014	Human Gall Bladder	Human Gall Bladder	Gall Bladder			Uni-ZAP XR
H0015	Human Gall Bladder, fraction II	Human Gall Bladder	Gall Bladder			Uni-ZAP XR
H0018	Human Greater Omentum, fII remake	Human Greater Omentum	peritoneum			Uni-ZAP XR
H0019	Human Fetal Heart	Human Fetal Heart	Heart			pBluescript
H0022	Jurkat Cells	Jurkat T-Cell Line				Lambda ZAP II
H0023	Human Fetal Lung					Uni-ZAP XR
H0024	Human Fetal Lung III	Human Fetal Lung	Lung			Uni-ZAP XR
H0025	Human Adult Lymph Node	Human Adult Lymph Node	Lymph Node			Lambda ZAP II
H0026	Namalwa Cells	Namalwa B-Cell Line, EBV immortalized				Lambda ZAP II
H0028	Human Old Ovary	Human Old Ovary	Ovary			pBluescript
H0029	Human Pancreas	Human Pancreas	Pancreas			Uni-ZAP XR
H0030	Human Placenta					Uni-ZAP XR
H0031	Human Placenta	Human Placenta	Placenta			Uni-ZAP XR
H0032	Human Prostate	Human Prostate	Prostate			Uni-ZAP XR
H0033	Human Pituitary	Human Pituitary				Uni-ZAP XR
H0035	Human Salivary Gland	Human Salivary Gland	Salivary gland			Uni-ZAP XR
H0036	Human Adult Small Intestine	Human Adult Small Intestine	Small Int.			Uni-ZAP XR
H0037	Human Adult Small Intestine	Human Adult Small Intestine	Small Int.			pBluescript
H0038	Human Testes	Human Testes	Testis			Uni-ZAP XR
H0039	Human Pancreas Tumor	Human Pancreas Tumor	Pancreas		disease	Uni-ZAP XR
H0040	Human Testes Tumor	Human Testes Tumor	Testis		disease	Uni-ZAP XR
H0041	Human Fetal Bone	Human Fetal Bone	Bone			Uni-ZAP XR
H0042	Human Adult Pulmonary	Human Adult Pulmonary	Lung			Uni-ZAP XR
H0044	Human Cornea	Human Cornea	eye			Uni-ZAP XR
H0046	Human Endometrial Tumor	Human Endometrial Tumor	Uterus		disease	Uni-ZAP XR
H0047	Human Fetal Liver	Human Fetal Liver	Liver			Uni-ZAP XR
H0049	Human Fetal Kidney	Human Fetal Kidney	Kidney			Uni-ZAP XR

H0050	Human Fetal Heart	Human Fetal Heart	Heart			Uni-ZAP XR
H0051	Human Hippocampus	Human Hippocampus	Brain			Uni-ZAP XR
H0052	Human Cerebellum	Human Cerebellum	Brain			Uni-ZAP XR
H0053	Human Adult Kidney	Human Adult Kidney	Kidney			Uni-ZAP XR
H0056	Human Umbilical Vein, Endo. remake	Human Umbilical Vein Endothelial Cells	Umbilical vein			Uni-ZAP XR
H0057	Human Fetal Spleen					Uni-ZAP XR
H0058	Human Thymus Tumor	Human Thymus Tumor	Thymus		disease	Lambda ZAP II
H0059	Human Uterine Cancer	Human Uterine Cancer	Uterus		disease	Lambda ZAP II
H0060	Human Macrophage	Human Macrophage	Blood	Cell Line		pBluescript
H0061	Human Macrophage	Human Macrophage	Blood	Cell Line		pBluescript
H0063	Human Thymus	Human Thymus	Thymus			Uni-ZAP XR
H0064	Human Right Hemisphere of Brain	Human Brain, right hemisphere	Brain			Uni-ZAP XR
H0068	Human Skin Tumor	Human Skin Tumor	Skin		disease	Uni-ZAP XR
H0069	Human Activated T-Cells	Activated T-Cells	Blood	Cell Line		Uni-ZAP XR
H0070	Human Pancreas	Human Pancreas	Pancreas			Uni-ZAP XR
H0071	Human Infant Adrenal Gland	Human Infant Adrenal Gland	Adrenal gland			Uni-ZAP XR
H0075	Human Activated T-Cells (II)	Activated T-Cells	Blood	Cell Line		Uni-ZAP XR
H0081	Human Fetal Epithelium (Skin)	Human Fetal Skin	Skin			Uni-ZAP XR
H0082	Human Fetal Muscle	Human Fetal Muscle	Sk Muscle			Uni-ZAP XR
H0083	HUMAN JURKAT MEMBRANE BOUND POLYSOMES	Jurkat Cells				Uni-ZAP XR
H0085	Human Colon	Human Colon				Lambda ZAP II
H0086	Human epithelioid sarcoma	Epithelioid Sarcoma, muscle	Sk Muscle		disease	Uni-ZAP XR
H0087	Human Thymus	Human Thymus				pBluescript
H0090	Human T-Cell Lymphoma	T-Cell Lymphoma	T-Cell		disease	Uni-ZAP XR
H0093	Human Greater Omentum Tumor	Human Greater Omentum	peritoneum		disease	Uni-ZAP XR
H0095	Human Greater Omentum, RNA Remake	Human Greater Omentum	peritoneum			Uni-ZAP XR
H0097	Human Adult Heart, subtracted	Human Adult Heart	Heart			pBluescript
H0098	Human Adult Liver, subtracted	Human Adult Liver	Liver			Uni-ZAP XR
H0099	Human Lung Cancer, subtracted	Human Lung Cancer	Lung			pBluescript
H0100	Human Whole Six Week Old Embryo	Human Whole Six Week Old Embryo	Embryo			Uni-ZAP XR
H0101	Human 7 Weeks Old Embryo, subtracted	Human Whole 7 Week Old Embryo	Embryo			Lambda ZAP II
H0102	Human Whole 6 Week Old Embryo (II), subt	Human Whole Six Week Old Embryo	Embryo			pBluescript
H0105	Human Fetal Heart,	Human Fetal	Heart			pBluescript

	subtracted	Heart				
H0107	Human Infant Adrenal Gland, subtracted	Human Infant Adrenal Gland	Adrenal gland			pBluescript
H0108	Human Adult Lymph Node, subtracted	Human Adult Lymph Node	Lymph Node			Uni-ZAP XR
H0109	Human Macrophage, subtracted	Macrophage	Blood	Cell Line		pBluescript
H0111	Human Placenta, subtracted	Human Placenta	Placenta			pBluescript
H0116	Human Thymus Tumor, subtracted	Human Thymus Tumor	Thymus			pBluescript
H0117	Human Uterine Cancer, subtracted	Human Uterine Cancer	Uterus			pBluescript
H0119	Human Pediatric Kidney	Human Pediatric Kidney	Kidney			Uni-ZAP XR
H0121	Human Cornea, subtracted	Human Cornea	eye			Uni-ZAP XR
H0122	Human Adult Skeletal Muscle	Human Skeletal Muscle	Sk Muscle			Uni-ZAP XR
H0123	Human Fetal Dura Mater	Human Fetal Dura Mater	Brain			Uni-ZAP XR
H0124	Human Rhabdomyosarcoma	Human Rhabdomyosarcoma	Sk Muscle		disease	Uni-ZAP XR
H0125	Cem cells cyclohexamide treated	Cyclohexamide Treated Cem, Jurkat, Raji, and Supt	Blood	Cell Line		Uni-ZAP XR
H0129	Jurkat cells, thiouridine activated, fract II	Jurkat Cells				Uni-ZAP XR
H0130	LNCAP untreated	LNCAP Cell Line	Prostate	Cell Line		Uni-ZAP XR
H0131	LNCAP + 0.3nM R1881	LNCAP Cell Line	Prostate	Cell Line		Uni-ZAP XR
H0132	LNCAP + 30nM R1881	LNCAP Cell Line	Prostate	Cell Line		Uni-ZAP XR
H0134	Raji Cells, cyclohexamide treated	Cyclohexamide Treated Cem, Jurkat, Raji, and Supt	Blood	Cell Line		Uni-ZAP XR
H0135	Human Synovial Sarcoma	Human Synovial Sarcoma	Synovium			Uni-ZAP XR
H0136	Supt Cells, cyclohexamide treated	Cyclohexamide Treated Cem, Jurkat, Raji, and Supt	Blood	Cell Line		Uni-ZAP XR
H0140	Activated T-Cells, 8 hrs.	Activated T-Cells	Blood	Cell Line		Uni-ZAP XR
H0141	Activated T-Cells, 12 hrs.	Activated T-Cells	Blood	Cell Line		Uni-ZAP XR
H0142	MCF7 Cell Line	MCF7 Cell line	Breast	Cell Line		Uni-ZAP XR
H0144	Nine Week Old Early Stage Human	9 Wk Old Early Stage Human	Embryo			Uni-ZAP XR
H0147	Human Adult Liver	Human Adult Liver	Liver			Uni-ZAP XR
H0149	7 Week Old Early Stage Human, subtracted	Human Whole 7 Week Old Embryo	Embryo			Uni-ZAP XR
H0150	Human Epididymus	Epididymis	Testis			Uni-ZAP XR
H0151	Early Stage Human Liver	Human Fetal Liver	Liver			Uni-ZAP XR
H0154	Human Fibrosarcoma	Human Skin Fibrosarcoma	Skin		disease	Uni-ZAP XR
H0155	Human Thymus, subtracted	Human Thymus Tumor	Thymus			pBluescript
H0156	Human Adrenal Gland	Human Adrenal	Adrenal		disease	Uni-ZAP XR

	Tumor	Gland Tumor	Gland			
H0157	Activated T-Cells, 0 hrs, ligation 2	Activated T-Cells	Blood	Cell Line		Uni-ZAP XR
H0159	Activated T-Cells, 8 hrs., ligation 2	Activated T-Cells	Blood	Cell Line		Uni-ZAP XR
H0161	Activated T-Cells, 24 hrs., ligation 2	Activated T-Cells	Blood	Cell Line		Uni-ZAP XR
H0163	Human Synovium	Human Synovium	Synovium			Uni-ZAP XR
H0165	Human Prostate Cancer, Stage B2	Human Prostate Cancer, stage B2	Prostate		disease	Uni-ZAP XR
H0166	Human Prostate Cancer, Stage B2 fraction	Human Prostate Cancer, stage B2	Prostate		disease	Uni-ZAP XR
H0167	Activated T-Cells, 24 hrs.	Activated T-Cells	Blood	Cell Line		Uni-ZAP XR
H0169	Human Prostate Cancer, Stage C fraction	Human Prostate Cancer, stage C	Prostate		disease	Uni-ZAP XR
H0170	12 Week Old Early Stage Human	Twelve Week Old Early Stage Human	Embryo			Uni-ZAP XR
H0171	12 Week Old Early Stage Human, II	Twelve Week Old Early Stage Human	Embryo			Uni-ZAP XR
H0172	Human Fetal Brain, random primed	Human Fetal Brain	Brain			Lambda ZAP II
H0173	Human Cardiomyopathy, RNA remake	Human Cardiomyopathy	Heart		disease	Uni-ZAP XR
H0175	H. Adult Spleen, ziplox					pSport1
H0177	CAMA1Ee Cell Line	CAMA1Ee Cell Line	Breast	Cell Line		Uni-ZAP XR
H0178	Human Fetal Brain	Human Fetal Brain	Brain			Uni-ZAP XR
H0179	Human Neutrophil	Human Neutrophil	Blood	Cell Line		Uni-ZAP XR
H0181	Human Primary Breast Cancer	Human Primary Breast Cancer	Breast		disease	Uni-ZAP XR
H0182	Human Primary Breast Cancer	Human Primary Breast Cancer	Breast		disease	Uni-ZAP XR
H0183	Human Colon Cancer	Human Colon Cancer	Colon		disease	Uni-ZAP XR
H0187	Resting T-Cell	T-Cells	Blood	Cell Line		Lambda ZAP II
H0188	Human Normal Breast	Human Normal Breast	Breast			Uni-ZAP XR
H0190	Human Activated Macrophage (LPS)	Human Macrophage/Monocytes	Blood	Cell Line		Uni-ZAP XR
H0191	Human Activated Macrophage (LPS), thiour	Human Macrophage/Monocytes	Blood	Cell Line		Uni-ZAP XR
H0194	Human Cerebellum, subtracted	Human Cerebellum	Brain			pBluescript
H0196	Human Cardiomyopathy, subtracted	Human Cardiomyopathy	Heart			Uni-ZAP XR
H0197	Human Fetal Liver, subtracted	Human Fetal Liver	Liver			Uni-ZAP XR
H0199	Human Fetal Liver, subtracted, neg clone	Human Fetal Liver	Liver			Uni-ZAP XR
H0200	Human Greater Omentum, fract II remake,	Human Greater Omentum	peritoneum			Uni-ZAP XR
H0201	Human Hippocampus, subtracted	Human Hippocampus	Brain			pBluescript
H0202	Jurkat Cells, cyclohexamide treated, subtraction	Cyclohexamide Treated Cem, Jurkat, Raji, and Supt	Blood	Cell Line		Uni-ZAP XR

H0204	Human Colon Cancer, subtracted	Human Colon Cancer	Colon			pBluescript
H0205	Human Colon Cancer, differential	Human Colon Cancer	Colon			pBluescript
H0207	LNCAP, differential expression	LNCAP Cell Line	Prostate	Cell Line		pBluescript
H0208	Early Stage Human Lung, subtracted	Human Fetal Lung	Lung			pBluescript
H0209	Human Cerebellum, differentially expressed	Human Cerebellum	Brain			Uni-ZAP XR
H0211	Human Prostate, differential expression	Human Prostate	Prostate			pBluescript
H0212	Human Prostate, subtracted	Human Prostate	Prostate			pBluescript
H0213	Human Pituitary, subtracted	Human Pituitary				Uni-ZAP XR
H0214	Raji cells, cyclohexamide treated, subtracted	Cyclohexamide Treated Cem, Jurkat, Raji, and Supt	Blood	Cell Line		pBluescript
H0215	Raji cells, cyclohexamide treated, differentially expressed	Cyclohexamide Treated Cem, Jurkat, Raji, and Supt	Blood	Cell Line		pBluescript
H0216	Supt cells, cyclohexamide treated, subtracted	Cyclohexamide Treated Cem, Jurkat, Raji, and Supt	Blood	Cell Line		pBluescript
H0217	Supt cells, cyclohexamide treated, differentially expressed	Cyclohexamide Treated Cem, Jurkat, Raji, and Supt	Blood	Cell Line		pBluescript
H0218	Activated T-Cells, 0hrs, subtracted	Activated T-Cells	Blood	Cell Line		Uni-ZAP XR
H0219	Activated T-Cells, 0hrs, differentially expressed	Activated T-Cells	Blood	Cell Line		Uni-ZAP XR
H0220	Activated T-Cells, 4 hrs, subtracted	Activated T-Cells	Blood	Cell Line		Uni-ZAP XR
H0222	Activated T-Cells, 8 hrs, subtracted	Activated T-Cells	Blood	Cell Line		Uni-ZAP XR
H0224	Activated T-Cells, 12 hrs, subtracted	Activated T-Cells	Blood	Cell Line		Uni-ZAP XR
H0225	Activated T-Cells, 12hrs, differentially expressed	Activated T-Cells	Blood	Cell Line		Uni-ZAP XR
H0228	C7MCF7 cell line, estrogen treated	C7MCF7 Cell Line, estrogen treated	Breast	Cell Line		Uni-ZAP XR
H0229	Early Stage Human Brain, random primed	Early Stage Human Brain	Brain			Lambda ZAP II
H0230	Human Cardiomyopathy, diff exp	Human Cardiomyopathy	Heart		disease	Uni-ZAP XR
H0231	Human Colon, subtraction	Human Colon				pBluescript
H0232	Human Colon, differential expression	Human Colon				pBluescript
H0234	human colon cancer, metastatic to liver, differentially expressed	Human Colon Cancer, metastaticized to liver	Liver			pBluescript
H0235	Human colon cancer, metaticized to liver, subtraction	Human Colon Cancer, metastaticized to liver	Liver			pBluescript
H0238	Human Myometrium Leiomyoma	Human Myometrium Leiomyoma	Uterus		disease	Uni-ZAP XR

H0239	Human Kidney Tumor	Human Kidney Tumor	Kidney		disease	Uni-ZAP XR
H0241	C7MCF7 cell line, estrogen treated, subtraction	C7MCF7 Cell Line, estrogen treated	Breast	Cell Line		Uni-ZAP XR
H0242	Human Fetal Heart, Differential (Fetal-Specific)	Human Fetal Heart	Heart			pBluescript
H0244	Human 8 Week Whole Embryo, subtracted	Human 8 Week Old Embryo	Embryo			Uni-ZAP XR
H0246	Human Fetal Liver-Enzyme subtraction	Human Fetal Liver	Liver			Uni-ZAP XR
H0247	Human Membrane Bound Polysomes- Enzyme Subtraction	Human Membrane Bound Polysomes	Blood	Cell Line		Uni-ZAP XR
H0250	Human Activated Monocytes	Human Monocytes				Uni-ZAP XR
H0251	Human Chondrosarcoma	Human Chondrosarcoma	Cartilage		disease	Uni-ZAP XR
H0252	Human Osteosarcoma	Human Osteosarcoma	Bone		disease	Uni-ZAP XR
H0253	Human adult testis, large inserts	Human Adult Testis	Testis			Uni-ZAP XR
H0254	Breast Lymph node cDNA library	Breast Lymph Node	Lymph Node			Uni-ZAP XR
H0255	breast lymph node CDNA library	Breast Lymph Node	Lymph Node			Lambda ZAP II
H0256	HL-60, unstimulated	Human HL-60 Cells, unstimulated	Blood	Cell Line		Uni-ZAP XR
H0257	HL-60, PMA 4H	HL-60 Cells, PMA stimulated 4H	Blood	Cell Line		Uni-ZAP XR
H0261	H. cerebellum, Enzyme subtracted	Human Cerebellum	Brain			Uni-ZAP XR
H0263	human colon cancer	Human Colon Cancer	Colon		disease	Lambda ZAP II
H0264	human tonsils	Human Tonsil	Tonsil			Uni-ZAP XR
H0265	Activated T-Cell (12hs)/Thiouridine labelledEco	T-Cells	Blood	Cell Line		Uni-ZAP XR
H0266	Human Microvascular Endothelial Cells, fract. A	HMEC	Vein	Cell Line		Lambda ZAP II
H0267	Human Microvascular Endothelial Cells, fract. B	HMEC	Vein	Cell Line		Lambda ZAP II
H0268	Human Umbilical Vein Endothelial Cells, fract. A	HUVE Cells	Umbilical vein	Cell Line		Lambda ZAP II
H0269	Human Umbilical Vein Endothelial Cells, fract. B	HUVE Cells	Umbilical vein	Cell Line		Lambda ZAP II
H0270	HPAS (human pancreas, subtracted)	Human Pancreas	Pancreas			Uni-ZAP XR
H0271	Human Neutrophil, Activated	Human Neutrophil - Activated	Blood	Cell Line		Uni-ZAP XR
H0272	HUMAN TONSILS, FRACTION 2	Human Tonsil	Tonsil			Uni-ZAP XR
H0274	Human Adult Spleen, fractionII	Human Adult Spleen	Spleen			Uni-ZAP XR
H0275	Human Infant Adrenal Gland, Subtracted	Human Infant Adrenal Gland	Adrenal gland			pBluescript
H0279	K562 cells	K562 Cell line	cell line	Cell Line		ZAP Express
H0280	K562 + PMA (36 hrs)	K562 Cell line	cell line	Cell Line		ZAP Express
H0284	Human OB MG63 control fraction I	Human Osteoblastoma	Bone	Cell Line		Uni-ZAP XR

		MG63 cell line				
H0286	Human OB MG63 treated (10 nM E2) fraction I	Human Osteoblastoma MG63 cell line	Bone	Cell Line		Uni-ZAP XR
H0288	Human OB HOS control fraction I	Human Osteoblastoma HOS cell line	Bone	Cell Line		Uni-ZAP XR
H0290	Human OB HOS treated (1 nM E2) fraction I	Human Osteoblastoma HOS cell line	Bone	Cell Line		Uni-ZAP XR
H0292	Human OB HOS treated (10 nM E2) fraction I	Human Osteoblastoma HOS cell line	Bone	Cell Line		Uni-ZAP XR
H0293	WI 38 cells					Uni-ZAP XR
H0294	Amniotic Cells - TNF induced	Amniotic Cells - TNF induced	Placenta	Cell Line		Uni-ZAP XR
H0295	Amniotic Cells - Primary Culture	Amniotic Cells - Primary Culture	Placenta	Cell Line		Uni-ZAP XR
H0300	CD34 positive cells (Cord Blood)	CD34 Positive Cells	Cord Blood			ZAP Express
H0305	CD34 positive cells (Cord Blood)	CD34 Positive Cells	Cord Blood			ZAP Express
H0306	CD34 depleted Buffy Coat (Cord Blood)	CD34 Depleted Buffy Coat (Cord Blood)	Cord Blood			ZAP Express
H0309	Human Chronic Synovitis	Synovium, Chronic Synovitis/ Osteoarthritis	Synovium		disease	Uni-ZAP XR
H0310	human caudate nucleus	Brain	Brain			Uni-ZAP XR
H0313	human pleural cancer	pleural cancer			disease	pBluescript
H0316	HUMAN STOMACH	Human Stomach	Stomach			Uni-ZAP XR
H0318	HUMAN B CELL LYMPHOMA	Human B Cell Lymphoma	Lymph Node		disease	Uni-ZAP XR
H0320	Human frontal cortex	Human Frontal Cortex	Brain			Uni-ZAP XR
H0327	human corpus colosum	Human Corpus Callosum	Brain			Uni-ZAP XR
H0328	human ovarian cancer	Ovarian Cancer	Ovary		disease	Uni-ZAP XR
H0329	Dermatofibrosarcoma Protuberance	Dermatofibrosarcoma Protuberans	Skin		disease	Uni-ZAP XR
H0331	Hepatocellular Tumor	Hepatocellular Tumor	Liver		disease	Lambda ZAP II
H0333	Hemangiopericytoma	Hemangiopericytoma	Blood vessel		disease	Lambda ZAP II
H0334	Kidney cancer	Kidney Cancer	Kidney		disease	Uni-ZAP XR
H0339	Duodenum	Duodenum				Uni-ZAP XR
H0340	Corpus Callosum	Corpus Callosum-93052				Uni-ZAP XR
H0341	Bone Marrow Cell Line (RS4;11)	Bone Marrow Cell Line RS4;11	Bone Marrow	Cell Line		Uni-ZAP XR
H0343	stomach cancer (human)	Stomach Cancer - 5383A (human)			disease	Uni-ZAP XR
H0344	Adipose tissue (human)	Adipose - 6825A (human)				Uni-ZAP XR
H0345	SKIN	Skin - 4000868H	Skin			Uni-ZAP XR
H0346	Brain-medulloblastoma	Brain (Medulloblastoma)-9405C006R	Brain		disease	Uni-ZAP XR
H0349	human adult liver cDNA library	Human Adult Liver	Liver			pCMVSPORT 1
H0350	Human Fetal Liver, mixed 10 & 14 week	Human Fetal Liver, mixed 10&14 Week	Liver			Uni-ZAP XR
H0351	Glioblastoma	Glioblastoma	Brain		disease	Uni-ZAP XR

H0352	wilm's tumor	Wilm's Tumor			disease	Uni-ZAP XR
H0354	Human Leukocytes	Human Leukocytes	Blood	Cell Line		pCMVSPORT 1
H0355	Human Liver	Human Liver, normal Adult				pCMVSPORT 1
H0356	Human Kidney	Human Kidney	Kidney			pCMVSPORT 1
H0357	H. Normalized Fetal Liver, II	Human Fetal Liver	Liver			Uni-ZAP XR
H0359	KMH2 cell line	KMH2				ZAP Express
H0361	Human rejected kidney	Human Rejected Kidney			disease	pBluescript
H0362	HeLa cell line	HELA CELL LINE				pSport1
H0363	Human Brain Medulla, subtracted	Human Brain Medulla				pBluescript
H0365	Osteoclastoma-normalized B	Human Osteoclastoma			disease	Uni-ZAP XR
H0366	L428 cell line	L428				ZAP Express
H0369	H. Atrophic Endometrium	Atrophic Endometrium and myometrium				Uni-ZAP XR
H0370	H. Lymph node breast Cancer	Lymph node with Met. Breast Cancer			disease	Uni-ZAP XR
H0371	Eosinophils-Hypereosinophilia patient	Eosinophils-Hypereosinophili a patient			disease	Uni-ZAP XR
H0372	Human Testes	Human Testes	Testis			pCMVSPORT 1
H0373	Human Heart	Human Adult Heart	Heart			pCMVSPORT 1
H0374	Human Brain	Human Brain				pCMVSPORT 1
H0375	Human Lung	Human Lung				pCMVSPORT 1
H0376	Human Spleen	Human Adult Spleen	Spleen			pCMVSPORT 1
H0379	Human Tongue, frac 1	Human Tongue				pSport1
H0380	Human Tongue, frac 2	Human Tongue				pSport1
H0381	Bone Cancer	Bone Cancer			disease	Uni-ZAP XR
H0383	Human Prostate BPH, re-excision	Human Prostate BPH				Uni-ZAP XR
H0385	H. Leukocytes, Kozak	Human Leukocytes	Blood	Cell Line		pCMVSPORT 1
H0386	Leukocyte and Lung; 4 screens	Human Leukocytes	Blood	Cell Line		pCMVSPORT 1
H0388	Human Rejected Kidney, 704 re-excision	Human Rejected Kidney			disease	pBluescript
H0390	Human Amygdala Depression, re-excision	Human Amygdala Depression			disease	pBluescript
H0391	H. Meningioma, M6	Human Meningioma	brain			pSport1
H0392	H. Meningioma, M1	Human Meningioma	brain			pSport1
H0393	Fetal Liver, subtraction II	Human Fetal Liver	Liver			pBluescript
H0394	A-14 cell line	Redd-Sternberg cell				ZAP Express
H0395	A1-CELL LINE	Redd-Sternberg cell				ZAP Express
H0396	L1 Cell line	Redd-Sternberg cell				ZAP Express
H0399	Human Kidney Cortex, re-rescue	Human Kidney Cortex				Lambda ZAP II
H0400	Human Striatum Depression, re-rescue	Human Brain, Striatum Depression	Brain			Lambda ZAP II

H0402	CD34 depleted Buffy Coat (Cord Blood), re-excision	CD34 Depleted Buffy Coat (Cord Blood)	Cord Blood			ZAP Express
H0403	H. Umbilical Vein Endothelial Cells, IL4 induced	HUVE Cells	Umbilical vein	Cell Line		Uni-ZAP XR
H0404	H. Umbilical Vein endothelial cells, uninduced	HUVE Cells	Umbilical vein	Cell Line		Uni-ZAP XR
H0405	Human Pituitary, subtracted VI	Human Pituitary				pBluescript
H0406	H Amygdala Depression, subtracted	Human Amygdala Depression				Uni-ZAP XR
H0408	Human kidney Cortex, subtracted	Human Kidney Cortex				pBluescript
H0409	H. Striatum Depression, subtracted	Human Brain, Striatum Depression	Brain			pBluescript
H0411	H Female Bladder, Adult	Human Female Adult Bladder	Bladder			pSport1
H0412	Human umbilical vein endothelial cells, IL-4 induced	HUVE Cells	Umbilical vein	Cell Line		pSport1
H0413	Human Umbilical Vein Endothelial Cells, uninduced	HUVE Cells	Umbilical vein	Cell Line		pSport1
H0414	Ovarian Tumor I, OV5232	Ovarian Tumor, OV5232	Ovary		disease	pSport1
H0415	H. Ovarian Tumor, II, OV5232	Ovarian Tumor, OV5232	Ovary		disease	pCMVSPORT 2.0
H0416	Human Neutrophils, Activated, re-excision	Human Neutrophil - Activated	Blood	Cell Line		pBluescript
H0417	Human Pituitary, subtracted VIII	Human Pituitary				pBluescript
H0419	Bone Cancer, re-excision	Bone Cancer				Uni-ZAP XR
H0421	Human Bone Marrow, re-excision	Bone Marrow				pBluescript
H0422	T-Cell PHA 16 hrs	T-Cells	Blood	Cell Line		pSport1
H0423	T-Cell PHA 24 hrs	T-Cells	Blood	Cell Line		pSport1
H0424	Human Pituitary, sub IX	Human Pituitary				pBluescript
H0427	Human Adipose	Human Adipose, left hiplipoma				pSport1
H0428	Human Ovary	Human Ovary Tumor	Ovary			pSport1
H0429	K562 + PMA (36 hrs), re-excision	K562 Cell line	cell line	Cell Line		ZAP Express
H0431	H. Kidney Medulla, re-excision	Kidney medulla	Kidney			pBluescript
H0432	H. Kidney Pyramid	Kidney pyramids	Kidney			pBluescript
H0433	Human Umbilical Vein Endothelial cells, frac B, re-excision	HUVE Cells	Umbilical vein	Cell Line		pBluescript
H0434	Human Brain, striatum, re-excision	Human Brain, Striatum				pBluescript
H0435	Ovarian Tumor 10-3-95	Ovarian Tumor, OV350721	Ovary			pCMVSPORT 2.0
H0436	Resting T-Cell Library, II	T-Cells	Blood	Cell Line		pSport1
H0437	H Umbilical Vein Endothelial cells, frac A, re-excision	HUVE Cells	Umbilical vein	Cell Line		Lambda ZAP II
H0438	H. Whole Brain #2, re-excision	Human Whole Brain #2				ZAP Express
H0439	Human Eosinophils	Eosinophils				pBluescript

H0441	H. Kidney Cortex, subtracted	Kidney cortex	Kidney			pBluescript
H0443	H. Adipose, subtracted	Human Adipose, left hiplipoma				pSport1
H0444	Spleen metastatic melanoma	Spleen, Metastatic malignant melanoma	Spleen		disease	pSport1
H0445	Spleen, Chronic lymphocytic leukemia	Human Spleen, CLL	Spleen		disease	pSport1
H0449	CD34+ cell, I	CD34 positive cells				pSport1
H0450	CD34+cells, II	CD34 positive cells				pCMVSPORT 2.0
H0453	H. Kidney Pyramid, subtracted	Kidney pyramids	Kidney			pBluescript
H0455	H. Striatum Depression, sub	Human Brain, Striatum Depression	Brain			pBluescript
H0456	H Kidney Cortex, subtracted III	Human Kidney Cortex				pBluescript
H0457	Human Eosinophils	Human Eosinophils				pSport1
H0458	CD34+ cell, I, frac II	CD34 positive cells				pSport1
H0459	CD34+cells, II, FRACTION 2	CD34 positive cells				pCMVSPORT 2.0
H0461	H. Kidney Medulla, subtracted	Kidney medulla	Kidney			pBluescript
H0477	Human Tonsil, Lib 3	Human Tonsil	Tonsil			pSport1
H0478	Salivary Gland, Lib 2	Human Salivary Gland	Salivary gland			pSport1
H0479	Salivary Gland, Lib 3	Human Salivary Gland	Salivary gland			pSport1
H0483	Breast Cancer cell line, MDA 36	Breast Cancer Cell line, MDA 36				pSport1
H0484	Breast Cancer Cell line, angiogenic	Breast Cancer Cell line, Angiogenic, 36T3				pSport1
H0485	Hodgkin's Lymphoma I	Hodgkin's Lymphoma I			disease	pCMVSPORT 2.0
H0486	Hodgkin's Lymphoma II	Hodgkin's Lymphoma II			disease	pCMVSPORT 2.0
H0487	Human Tonsils, lib I	Human Tonsils				pCMVSPORT 2.0
H0488	Human Tonsils, Lib 2	Human Tonsils				pCMVSPORT 2.0
H0489	Crohn's Disease	Ileum	Intestine		disease	pSport1
H0492	HL-60, RA 4h, Subtracted	HL-60 Cells, RA stimulated for 4H	Blood	Cell Line		Uni-ZAP XR
H0493	HL-60, PMA 1d, subtracted	HL-60 Cells, PMA stimulated for 1 day	Blood	Cell Line		Uni-ZAP XR
H0494	Keratinocyte	Keratinocyte				pCMVSPORT 2.0
H0497	HEL cell line	HEL cell line		HEL 92.1.7		pSport1
H0505	Human Astrocyte	Human Astrocyte				pSport1
H0506	Ulcerative Colitis	Colon	Colon			pSport1
H0509	Liver, Hepatoma	Human Liver, Hepatoma, patient 8	Liver		disease	pCMVSPORT 3.0
H0510	Human Liver, normal	Human Liver, normal, Patient # 8	Liver			pCMVSPORT 3.0
H0517	Nasal polyps	Nasal polyps				pCMVSPORT 2.0
H0518	pBMC stimulated w/ poly	pBMC				pCMVSPORT 3.0

	I/C	stimulated with poly I/C				
H0519	NTERA2, control	NTERA2, Teratocarcinoma cell line				pCMVSPORT 3.0
H0520	NTERA2 + retinoic acid, 14 days	NTERA2, Teratocarcinoma cell line				pSport1
H0521	Primary Dendritic Cells, lib 1	Primary Dendritic cells				pCMVSPORT 3.0
H0522	Primary Dendritic cells, frac 2	Primary Dendritic cells				pCMVSPORT 3.0
H0525	PCR, pBMC I/C treated	pBMC stimulated with poly I/C				PCR11
H0528	Poly[I]/Poly[C] Normal Lung Fibroblasts	Poly[I]/Poly[C] Normal Lung Fibroblasts				pCMVSPORT 3.0
H0529	Myeloid Progenitor Cell Line	TF-1 Cell Line; Myeloid progenitor cell line				pCMVSPORT 3.0
H0530	Human Dermal Endothelial Cells, untreated	Human Dermal Endothelial Cells; untreated				pSport1
H0535	Human ovary tumor cell OV350721	Ovarian Tumor, OV350721	Ovary		disease	pSport1
H0538	Merkel Cells	Merkel cells	Lymph node			pSport1
H0539	Pancreas Islet Cell Tumor	Pancreas Islet Cell Tumour	Pancreas		disease	pSport1
H0540	Skin, burned	Skin, leg burned	Skin			pSport1
H0542	T Cell helper I	Helper T cell				pCMVSPORT 3.0
H0543	T cell helper II	Helper T cell				pCMVSPORT 3.0
H0544	Human endometrial stromal cells	Human endometrial stromal cells				pCMVSPORT 3.0
H0545	Human endometrial stromal cells-treated with progesterone	Human endometrial stromal cells-treated with proge				pCMVSPORT 3.0
H0546	Human endometrial stromal cells-treated with estradiol	Human endometrial stromal cells-treated with estra				pCMVSPORT 3.0
H0547	NTERA2 teratocarcinoma cell line+retinoic acid (14 days)	NTERA2, Teratocarcinoma cell line				pSport1
H0549	H. Epididymus, caput & corpus	Human Epididymus, caput and corpus				Uni-ZAP XR
H0550	H. Epididymus, cauda	Human Epididymus, cauda				Uni-ZAP XR
H0551	Human Thymus Stromal Cells	Human Thymus Stromal Cells				pCMVSPORT 3.0
H0553	Human Placenta	Human Placenta				pCMVSPORT 3.0
H0555	Rejected Kidney, lib 4	Human Rejected Kidney	Kidney		disease	pCMVSPORT 3.0
H0556	Activated T-cell(12h)/Thiouridine-re-excision	T-Cells	Blood	Cell Line		Uni-ZAP XR
H0559	HL-60, PMA 4H, re-excision	HL-60 Cells, PMA stimulated 4H	Blood	Cell Line		Uni-ZAP XR

H0560	KMH2	KMH2				pCMVSPORT 3.0
H0561	L428	L428				pCMVSPORT 3.0
H0562	Human Fetal Brain, normalized c5-11-26	Human Fetal Brain				pCMVSPORT 2.0
H0563	Human Fetal Brain, normalized 50021F	Human Fetal Brain				pCMVSPORT 2.0
H0564	Human Fetal Brain, normalized C5001F	Human Fetal Brain				pCMVSPORT 2.0
H0565	Human Fetal Brain, normalized 100024F	Human Fetal Brain				pCMVSPORT 2.0
H0566	Human Fetal Brain, normalized c50F	Human Fetal Brain				pCMVSPORT 2.0
H0567	Human Fetal Brain, normalized A5002F	Human Fetal Brain				pCMVSPORT 2.0
H0569	Human Fetal Brain, normalized CO	Human Fetal Brain				pCMVSPORT 2.0
H0570	Human Fetal Brain, normalized C500H	Human Fetal Brain				pCMVSPORT 2.0
H0571	Human Fetal Brain, normalized C500HE	Human Fetal Brain				pCMVSPORT 2.0
H0572	Human Fetal Brain, normalized AC5002	Human Fetal Brain				pCMVSPORT 2.0
H0574	Hepatocellular Tumor, re-excision	Hepatocellular Tumor	Liver		disease	Lambda ZAP II
H0575	Human Adult Pulmonary, re-excision	Human Adult Pulmonary	Lung			Uni-ZAP XR
H0576	Resting T-Cell; re-excision	T-Cells	Blood	Cell Line		Lambda ZAP II
H0580	Dendritic cells, pooled	Pooled dendritic cells				pCMVSPORT 3.0
H0581	Human Bone Marrow, treated	Human Bone Marrow	Bone Marrow			pCMVSPORT 3.0
H0583	B Cell lymphoma	B Cell Lymphoma	B Cell		disease	pCMVSPORT 3.0
H0584	Activated T-cells, 24 hrs, re-excision	Activated T-Cells	Blood	Cell Line		Uni-ZAP XR
H0585	Activated T-Cells, 12 hrs, re-excision	Activated T-Cells	Blood	Cell Line		Uni-ZAP XR
H0586	Healing groin wound, 6.5 hours post incision	healing groin wound, 6.5 hours post incision - 2/	groin		disease	pCMVSPORT 3.0
H0587	Healing groin wound; 7.5 hours post incision	Groin-2/19/97	groin		disease	pCMVSPORT 3.0
H0589	CD34 positive cells (cord blood), re-ex	CD34 Positive Cells	Cord Blood			ZAP Express
H0590	Human adult small intestine, re-excision	Human Adult Small Intestine	Small Int.			Uni-ZAP XR
H0591	Human T-cell lymphoma, re-excision	T-Cell Lymphoma	T-Cell		disease	Uni-ZAP XR
H0592	Healing groin wound - zero hr post-incision (control)	HGS wound healing project; abdomen			disease	pCMVSPORT 3.0
H0593	Olfactory epithelium; nasal cavity	Olfactory epithelium from roof of left nasal cavity				pCMVSPORT 3.0
H0594	Human Lung Cancer, re-excision	Human Lung Cancer	Lung		disease	Lambda ZAP II
H0595	Stomach cancer (human); re-excision	Stomach Cancer - 5383A (human)			disease	Uni-ZAP XR
H0596	Human Colon Cancer; re-excision	Human Colon Cancer	Colon			Lambda ZAP II
H0597	Human Colon; re-excision	Human Colon				Lambda ZAP II
H0598	Human Stomach; re-excision	Human Stomach	Stomach			Uni-ZAP XR

H0599	Human Adult Heart;re-excision	Human Adult Heart	Heart			Uni-ZAP XR
H0600	Healing Abdomen wound;70&90 min post incision	Abdomen			disease	pCMVSPORT 3.0
H0601	Healing Abdomen Wound;15 days post incision	Abdomen			disease	pCMVSPORT 3.0
H0602	Healing Abdomen Wound;21&29 days post incision	Abdomen			disease	pCMVSPORT 3.0
H0604	Human Pituitary, re-excision	Human Pituitary				pBluescript
H0606	Human Primary Breast Cancer;re-excision	Human Primary Breast Cancer	Breast		disease	Uni-ZAP XR
H0607	H.Leukocytes, normalized cot 50A3	H.Leukocytes				pCMVSPORT 1
H0610	H.Leukocytes, normalized cot 5A	H.Leukocytes				pCMVSPORT 1
H0611	H. Leukocytes, normalized cot 500 B	H.Leukocytes				pCMVSPORT 1
H0612	H.Leukocytes, normalized cot 50 B	H.Leukocytes				pCMVSPORT 1
H0613	H.Leukocytes, normalized cot 5B	H.Leukocytes				pCMVSPORT 1
H0615	Human Ovarian Cancer Reexcision	Ovarian Cancer	Ovary		disease	Uni-ZAP XR
H0616	Human Testes, Reexcision	Human Testes	Testis			Uni-ZAP XR
H0617	Human Primary Breast Cancer Reexcision	Human Primary Breast Cancer	Breast		disease	Uni-ZAP XR
H0618	Human Adult Testes, Large Inserts, Reexcision	Human Adult Testis	Testis			Uni-ZAP XR
H0619	Fetal Heart	Human Fetal Heart	Heart			Uni-ZAP XR
H0620	Human Fetal Kidney; Reexcision	Human Fetal Kidney	Kidney			Uni-ZAP XR
H0622	Human Pancreas Tumor; Reexcision	Human Pancreas Tumor	Pancreas		disease	Uni-ZAP XR
H0623	Human Umbilical Vein; Reexcision	Human Umbilical Vein Endothelial Cells	Umbilical vein			Uni-ZAP XR
H0624	12 Week Early Stage Human II; Reexcision	Twelve Week Old Early Stage Human	Embryo			Uni-ZAP XR
H0625	Ku 812F Basophils Line	Ku 812F Basophils				pSport1
H0626	Saos2 Cells; Untreated	Saos2 Cell Line; Untreated				pSport1
H0627	Saos2 Cells; Vitamin D3 Treated	Saos2 Cell Line; Vitamin D3 Treated				pSport1
H0628	Human Pre-Differentiated Adipocytes	Human Pre-Differentiated Adipocytes				Uni-ZAP XR
H0629	Human Leukocyte, control #2	Human Normalized leukocyte				pCMVSPORT 1
H0630	Human Leukocytes,normalized control #4	Human Normalized leukocyte				pCMVSPORT 1
H0631	Saos2, Dexamethosone Treated	Saos2 Cell Line; Dexamethosone Treated				pSport1
H0632	Hepatocellular Tumor;re-excision	Hepatocellular Tumor	Liver			Lambda ZAP II

H0633	Lung Carcinoma A549 TNFalpha activated	TNFalpha activated A549-- Lung_Carcinoma			disease	pSport1
H0634	Human Testes Tumor, re- excision	Human Testes Tumor	Testis		disease	Uni-ZAP XR
H0635	Human Activated T-Cells, re-excision	Activated T- Cells	Blood	Cell Line		Uni-ZAP XR
H0637	Dendritic Cells From CD34 Cells	Dendritic cells from CD34 cells				pSport1
H0638	CD40 activated monocyte dendritic cells	CD40 activated monocyte dendritic cells				pSport1
H0640	Ficolled Human Stromal Cells, Untreated	Ficolled Human Stromal Cells, Untreated				Other
H0641	LPS activated derived dendritic cells	LPS activated monocyte derived dendritic cells				pSport1
H0642	Hep G2 Cells, lambda library	Hep G2 Cells				Other
H0643	Hep G2 Cells, PCR library	Hep G2 Cells				Other
H0644	Human Placenta (re- excision)	Human Placenta	Placenta			Uni-ZAP XR
H0645	Fetal Heart, re-excision	Human Fetal Heart	Heart			Uni-ZAP XR
H0646	Lung, Cancer (4005313 A3): Invasive Poorly Differentiated Lung Adenocarcinoma, poorly di	Metastatic squamous cell lung carcinoma, poorly di				pSport1
H0647	Lung, Cancer (4005163 B7): Invasive, Poorly Diff. Adenocarcinoma, Metastatic	Invasive poorly differentiated lung adenocarcinoma			disease	pSport1
H0648	Ovary, Cancer: (4004562 B6) Papillary Serous Cystic Neoplasm, Low Malignant Pot	Papillary Cstic neoplasm of low malignant potentia			disease	pSport1
H0649	Lung, Normal: (4005313 B1)	Normal Lung				pSport1
H0650	B-Cells	B-Cells				pCMVSPORT 3.0
H0651	Ovary, Normal: (9805C040R)	Normal Ovary				pSport1
H0652	Lung, Normal: (4005313 B1)	Normal Lung				pSport1
H0653	Stromal Cells	Stromal Cells				pSport1
H0654	Lung, Cancer: (4005313 A3) Invasive Poorly- differentiated Metastatic lung adenoc	Metastatic Squamous cell lung Carcinoma poorly dif				Other
H0656	B-cells (unstimulated)	B-cells (unstimulated)				pSport1
H0657	B-cells (stimulated)	B-cells (stimulated)				pSport1
H0658	Ovary, Cancer (9809C332): Poorly differentiated adenocarcinoma	9809C332- Poorly differentiate	Ovary & Fallopian Tubes		disease	pSport1
H0659	Ovary, Cancer (15395A1F): Grade II Papillary Carcinoma	Grade II Papillary Carcinoma, Ovary	Ovary		disease	pSport1
H0660	Ovary, Cancer: (15799A1F) Poorly differentiated carcinoma	Poorly differentiated carcinoma, ovary			disease	pSport1
H0661	Breast, Cancer: (4004943	Breast cancer			disease	pSport1

	A5)					
H0662	Breast, Normal: (4005522B2)	Normal Breast - #4005522(B2)	Breast			pSport1
H0663	Breast, Cancer: (4005522 A2)	Breast Cancer - #4005522(A2)	Breast		disease	pSport1
H0664	Breast, Cancer: (9806C012R)	Breast Cancer	Breast		disease	pSport1
H0665	Stromal cells 3.88	Stromal cells 3.88				pSport1
H0666	Ovary, Cancer: (4004332 A2)	Ovarian Cancer, Sample #4004332A2			disease	pSport1
H0667	Stromal cells(HBM3.18)	Stromal cell(HBM 3.18)				pSport1
H0668	stromal cell clone 2.5	stromal cell clone 2.5				pSport1
H0669	Breast, Cancer: (4005385 A2)	Breast Cancer (4005385A2)	Breast			pSport1
H0670	Ovary, Cancer(4004650 A3): Well-Differentiated Micropapillary Serous Carcinoma	Ovarian Cancer - 4004650A3				pSport1
H0671	Breast, Cancer: (9802C02OE)	Breast Cancer- Sample # 9802C02OE				pSport1
H0672	Ovary, Cancer: (4004576 A8)	Ovarian Cancer(4004576 A8)	Ovary			pSport1
H0673	Human Prostate Cancer, Stage B2; re-excision	Human Prostate Cancer, stage B2	Prostate			Uni-ZAP XR
H0674	Human Prostate Cancer, Stage C; re-excision	Human Prostate Cancer, stage C	Prostate			Uni-ZAP XR
H0675	Colon, Cancer: (9808C064R)	Colon Cancer 9808C064R				pCMVSPORT 3.0
H0676	Colon, Cancer: (9808C064R)-total RNA	Colon Cancer 9808C064R				pCMVSPORT 3.0
H0677	TNFR degenerate oligo	B-Cells				PCR II
H0682	Serous Papillary Adenocarcinoma	serous papillary adenocarcinoma (9606G304SPA3 B)				pCMVSPORT 3.0
H0683	Ovarian Serous Papillary Adenocarcinoma	Serous papillary adenocarcinoma, stage 3C (9804G01)				pCMVSPORT 3.0
H0684	Serous Papillary Adenocarcinoma	Ovarian Cancer- 9810G606	Ovaries			pCMVSPORT 3.0
H0685	Adenocarcinoma of Ovary, Human Cell Line, # OVCAR-3	Adenocarcinoma of Ovary, Human Cell Line, # OVCAR-				pCMVSPORT 3.0
H0686	Adenocarcinoma of Ovary, Human Cell Line	Adenocarcinoma of Ovary, Human Cell Line, # SW- 626				pCMVSPORT 3.0
H0687	Human normal ovary(#9610G215)	Human normal ovary(#9610G21 5)	Ovary			pCMVSPORT 3.0
H0688	Human Ovarian Cancer(#9807G017)	Human Ovarian cancer(#9807G0 17),mRNA from Matura Ru				pCMVSPORT 3.0
H0689	Ovarian Cancer	Ovarian Cancer, #9806G019				pCMVSPORT 3.0
H0690	Ovarian Cancer, # 9702G001	Ovarian Cancer, #9702G001				pCMVSPORT 3.0

H0691	Normal Ovary, #9710G208	normal ovary, #9710G208				pCMVSPORT 3.0
H0692	BLYS Receptor from Expression Cloning	B Cell Lymphoma	B Cell			pCMVSPORT 3.0
H0693	Normal Prostate #ODQ3958EN	Normal Prostate Tissue # ODQ3958EN				pCMVSPORT 3.0
H0694	Prostate gland adenocarcinoma	Prostate gland, adenocarcinoma, mod/diff, gleason	prostate gland			pCMVSPORT 3.0
H0695	mononucleocytes from patient	mononucleocytes from patient at Shady Grove Hospit				pCMVSPORT 3.0
N0006	Human Fetal Brain	Human Fetal Brain				
N0007	Human Hippocampus	Human Hippocampus				
S0001	Brain frontal cortex	Brain frontal cortex	Brain			Lambda ZAP II
S0002	Monocyte activated	Monocyte-activated	blood	Cell Line		Uni-ZAP XR
S0003	Human Osteoclastoma	Osteoclastoma	bone		disease	Uni-ZAP XR
S0004	Prostate	Prostate BPH	Prostate			Lambda ZAP II
S0005	Heart	Heart-left ventricle	Heart			pCDNA
S0006	Neuroblastoma	Human Neural Blastoma			disease	pCDNA
S0007	Early Stage Human Brain	Human Fetal Brain				Uni-ZAP XR
S0010	Human Amygdala	Amygdala				Uni-ZAP XR
S0011	STROMAL - OSTEOCLASTOMA	Osteoclastoma	bone		disease	Uni-ZAP XR
S0013	Prostate	Prostate	prostate			Uni-ZAP XR
S0014	Kidney Cortex	Kidney cortex	Kidney			Uni-ZAP XR
S0015	Kidney medulla	Kidney medulla	Kidney			Uni-ZAP XR
S0016	Kidney Pyramids	Kidney pyramids	Kidney			Uni-ZAP XR
S0022	Human Osteoclastoma Stromal Cells - unamplified	Osteoclastoma Stromal Cells				Uni-ZAP XR
S0024	Human Kidney Medulla - unamplified	Human Kidney Medulla				
S0026	Stromal cell TF274	stromal cell	Bone marrow	Cell Line		Uni-ZAP XR
S0027	Smooth muscle, serum treated	Smooth muscle	Pulmonary artery	Cell Line		Uni-ZAP XR
S0028	Smooth muscle, control	Smooth muscle	Pulmonary artery	Cell Line		Uni-ZAP XR
S0029	brain stem	Brain stem	brain			Uni-ZAP XR
S0031	Spinal cord	Spinal cord	spinal cord			Uni-ZAP XR
S0032	Smooth muscle-ILb induced	Smooth muscle	Pulmonary artery	Cell Line		Uni-ZAP XR
S0036	Human Substantia Nigra	Human Substantia Nigra				Uni-ZAP XR
S0037	Smooth muscle, IL1b induced	Smooth muscle	Pulmonary artery	Cell Line		Uni-ZAP XR
S0038	Human Whole Brain #2 - Oligo dT > 1.5Kb	Human Whole Brain #2				ZAP Express
S0039	Hypothalamus	Hypothalamus	Brain			Uni-ZAP XR
S0040	Adipocytes	Human Adipocytes from Osteoclastoma				Uni-ZAP XR
S0042	Testes	Human Testes				ZAP Express
S0044	Prostate BPH	prostate BPH	Prostate		disease	Uni-ZAP XR
S0045	Endothelial cells-control	Endothelial cell	endothelial	Cell Line		Uni-ZAP XR

			cell-lung endothelial cell-lung			
S0046	Endothelial-induced	Endothelial cell		Cell Line		Uni-ZAP XR
S0049	Human Brain, Striatum	Human Brain, Striatum				Uni-ZAP XR
S0050	Human Frontal Cortex, Schizophrenia	Human Frontal Cortex, Schizophrenia			disease	Uni-ZAP XR
S0051	Human Hypothalamus,Schizophrenia	Human Hypothalamus, Schizophrenia			disease	Uni-ZAP XR
S0052	neutrophils control	human neutrophils	blood	Cell Line		Uni-ZAP XR
S0053	Neutrophils IL-1 and LPS induced	human neutrophil induced	blood	Cell Line		Uni-ZAP XR
S0106	STRIATUM DEPRESSION		BRAIN		disease	Uni-ZAP XR
S0110	Brain Amygdala Depression		Brain		disease	Uni-ZAP XR
S0112	Hypothalamus		Brain			Uni-ZAP XR
S0114	Anergic T-cell	Anergic T-cell		Cell Line		Uni-ZAP XR
S0116	Bone marrow	Bone marrow	Bone marrow			Uni-ZAP XR
S0118	Smooth muscle control 2	Smooth muscle	Pulmonary artery	Cell Line		Uni-ZAP XR
S0122	Osteoclastoma-normalized A	Osteoclastoma	bone		disease	pBluescript
S0124	Smooth muscle-edited A	Smooth muscle	Pulmonary artery	Cell Line		Uni-ZAP XR
S0126	Osteoblasts	Osteoblasts	Knee	Cell Line		Uni-ZAP XR
S0132	Epithelial-TNF α and INF induced	Airway Epithelial				Uni-ZAP XR
S0134	Apoptotic T-cell	apoptotic cells		Cell Line		Uni-ZAP XR
S0136	PERM TF274	stromal cell	Bone marrow	Cell Line		Lambda ZAP II
S0140	eosinophil-IL5 induced	eosinophil	lung	Cell Line		Uni-ZAP XR
S0142	Macrophage-oxLDL	macrophage- oxidized LDL treated	blood	Cell Line		Uni-ZAP XR
S0144	Macrophage (GM-CSF treated)	Macrophage (GM-CSF treated)				Uni-ZAP XR
S0146	prostate-edited	prostate BPH	Prostate			Uni-ZAP XR
S0148	Normal Prostate	Prostate	prostate			Uni-ZAP XR
S0150	LNCAP prostate cell line	LNCAP Cell Line	Prostate	Cell Line		Uni-ZAP XR
S0152	PC3 Prostate cell line	PC3 prostate cell line				Uni-ZAP XR
S0174	Prostate-BPH subtracted II	Human Prostate BPH				pBluescript
S0176	Prostate, normal, subtraction I	Prostate	prostate			Uni-ZAP XR
S0180	Bone Marrow Stroma, TNF&LPS ind	Bone Marrow Stroma, TNF & LPS induced			disease	Uni-ZAP XR
S0182	Human B Cell 8866	Human B- Cell 8866				Uni-ZAP XR
S0188	Prostate.BPH, Lib 2	Human Prostate BPH			disease	pSport1
S0190	Prostate BPH,Lib 2, subtracted	Human Prostate BPH				pSport1
S0192	Synovial Fibroblasts (control)	Synovial Fibroblasts				pSport1
S0194	Synovial hypoxia	Synovial Fibroblasts				pSport1

S0196	Synovial IL-1/TNF stimulated	Synovial Fibroblasts				pSport1
S0206	Smooth Muscle- HASTE normalized	Smooth muscle	Pulmonary artery	Cell Line		pBluescript
S0208	Messangial cell, frac 1	Messangial cell				pSport1
S0210	Messangial cell, frac 2	Messangial cell				pSport1
S0212	Bone Marrow Stromal Cell, untreated	Bone Marrow Stromal Cell, untreated				pSport1
S0214	Human Osteoclastoma, re-excision	Osteoclastoma	bone		disease	Uni-ZAP XR
S0216	Neutrophils IL-1 and LPS induced	human neutrophil induced	blood	Cell Line		Uni-ZAP XR
S0218	Apoptotic T-cell, re-excision	apoptotic cells		Cell Line		Uni-ZAP XR
S0220	H. hypothalamus, frac A, re-excision	Hypothalamus	Brain			ZAP Express
S0222	H. Frontal cortex, epileptic, re-excision	H. Brain, Frontal Cortex, Epileptic	Brain		disease	Uni-ZAP XR
S0242	Synovial Fibroblasts (III/TNF), subt	Synovial Fibroblasts				pSport1
S0250	Human Osteoblasts II	Human Osteoblasts	Femur		disease	pCMVSPORT 2.0
S0260	Spinal Cord, re-excision	Spinal cord	spinal cord			Uni-ZAP XR
S0270	PTMIX	PTMIX (Human Thymus)	Thymus			PCR II
S0276	Synovial hypoxia-RSF subtracted	Synovial fibroblasts (rheumatoid)	Synovial tissue			pSport1
S0278	H Macrophage (GM-CSF treated), re-excision	Macrophage (GM-CSF treated)				Uni-ZAP XR
S0280	Human Adipose Tissue, re-excision	Human Adipose Tissue				Uni-ZAP XR
S0282	Brain Frontal Cortex, re-excision	Brain frontal cortex	Brain			Lambda ZAP II
S0292	Osteoarthritis (OA-4)	Human Osteoarthritic Cartilage	Bone		disease	pSport1
S0294	Larynx tumor	Larynx tumor	Larynx, vocal cord		disease	pSport1
S0296	Normal lung	Normal lung	Lung			pSport1
S0298	Bone marrow stroma, treated	Bone marrow stroma, treated SB	Bone marrow			pSport1
S0300	Frontal lobe, dementia, re-excision	Frontal Lobe dementia/Alzheimer's	Brain			Uni-ZAP XR
S0306	Larynx normal #10 261-273	Larynx normal				pSport1
S0308	Spleen/normal	Spleen normal				pSport1
S0310	Normal trachea	Normal trachea				pSport1
S0312	Human osteoarthritic, fraction II	Human osteoarthritic cartilage			disease	pSport1
S0314	Human osteoarthritic, fraction I	Human osteoarthritic cartilage			disease	pSport1
S0316	Human Normal Cartilage, Fraction I	Human Normal Cartilage				pSport1
S0318	Human Normal Cartilage Fraction II	Human Normal Cartilage				pSport1
S0322	Siebben Polyposis	Siebben Polyposis				pSport1
S0328	Palate carcinoma	Palate carcinoma	Uvula		disease	pSport1

S0330	Palate normal	Palate normal	Uvula			pSport1
S0332	Pharynx carcinoma	Pharynx carcinoma	Hypopharynx			pSport1
S0334	Human Normal Cartilage Fraction III	Human Normal Cartilage				pSport1
S0338	Human Osteoarthritic Cartilage Fraction III	Human osteoarthritic cartilage			disease	pSport1
S0342	Adipocytes;re-excision	Human Adipocytes from Osteoclastoma				Uni-ZAP XR
S0344	Macrophage-oxLDL; re-excision	macrophage-oxidized LDL treated	blood	Cell Line		Uni-ZAP XR
S0346	Human Amygdala;re-excision	Amygdala				Uni-ZAP XR
S0348	Cheek Carcinoma	Cheek Carcinoma			disease	pSport1
S0350	Pharynx Carcinoma	Pharynx carcinoma	Hypopharynx		disease	pSport1
S0352	Larynx Carcinoma	Larynx carcinoma			disease	pSport1
S0354	Colon Normal II	Colon Normal	Colon			pSport1
S0356	Colon Carcinoma	Colon Carcinoma	Colon		disease	pSport1
S0358	Colon Normal III	Colon Normal	Colon			pSport1
S0360	Colon Tumor II	Colon Tumor	Colon		disease	pSport1
S0362	Human Gastrocnemius	Gastrocnemius muscle				pSport1
S0364	Human Quadriceps	Quadriceps muscle				pSport1
S0366	Human Soleus	Soleus Muscle				pSport1
S0370	Larynx carcinoma II	Larynx carcinoma			disease	pSport1
S0372	Larynx carcinoma III	Larynx carcinoma			disease	pSport1
S0374	Normal colon	Normal colon				pSport1
S0376	Colon Tumor	Colon Tumor			disease	pSport1
S0378	Pancreas normal PCA4 No	Pancreas Normal PCA4 No				pSport1
S0380	Pancreas Tumor PCA4 Tu	Pancreas Tumor PCA4 Tu			disease	pSport1
S0382	Larynx carcinoma IV	Larynx carcinoma			disease	pSport1
S0384	Tongue carcinoma	Tongue carcinoma			disease	pSport1
S0386	Human Whole Brain, re-excision	Whole brain	Brain			ZAP Express
S0388	Human Hypothalamus,schizophrenia, re-excision	Human Hypothalamus, Schizophrenia			disease	Uni-ZAP XR
S0390	Smooth muscle, control; re-excision	Smooth muscle	Pulmonary artery	Cell Line		Uni-ZAP XR
S0392	Salivary Gland	Salivary gland; normal				pSport1
S0394	Stomach;normal	Stomach; normal				pSport1
S0398	Testis; normal	Testis; normal				pSport1
S0400	Brain; normal	Brain; normal				pSport1
S0402	Adrenal Gland,normal	Adrenal gland; normal				pSport1
S0404	Rectum normal	Rectum, normal				pSport1
S0406	Rectum tumour	Rectum tumour				pSport1
S0408	Colon, normal	Colon, normal				pSport1
S0410	Colon, tumour	Colon, tumour				pSport1
S0412	Temporal cortex- Alzheimer; subtracted	Temporal cortex, alzheimer			disease	Other

S0414	Hippocampus, Alzheimer Subtracted	Hippocampus, Alzheimer Subtracted				Other
S0418	CHME Cell Line;treated 5 hrs	CHME Cell Line; treated				pCMVSPORT 3.0
S0420	CHME Cell Line,untreated	CHME Cell line, untreated				pSport1
S0422	Mo7e Cell Line GM-CSF treated (1ng/ml)	Mo7e Cell Line GM-CSF treated (1ng/ml)				pCMVSPORT 3.0
S0424	TF-1 Cell Line GM-CSF Treated	TF-1 Cell Line GM-CSF Treated				pSport1
S0426	Monocyte activated; re-excision	Monocyte-activated	blood	Cell Line		Uni-ZAP XR
S0428	Neutrophils control; re-excision	human neutrophils	blood	Cell Line		Uni-ZAP XR
S0430	Aryepiglottis Normal	Aryepiglottis Normal				pSport1
S0432	Sinus piniformis Tumour	Sinus piniformis Tumour				pSport1
S0434	Stomach Normal	Stomach Normal			disease	pSport1
S0436	Stomach Tumour	Stomach Tumour			disease	pSport1
S0438	Liver Normal Met5No	Liver Normal Met5No				pSport1
S0440	Liver Tumour Met 5 Tu	Liver Tumour				pSport1
S0442	Colon Normal	Colon Normal				pSport1
S0444	Colon Tumor	Colon Tumour			disease	pSport1
S0446	Tongue Tumour	Tongue Tumour				pSport1
S0448	Larynx Normal	Larynx Normal				pSport1
S0450	Larynx Tumour	Larynx Tumour				pSport1
S0452	Thymus	Thymus				pSport1
S0454	Placenta	Placenta	Placenta			pSport1
S0456	Tongue Normal	Tongue Normal				pSport1
S0458	Thyroid Normal (SDCA2 No)	Thyroid normal				pSport1
S0460	Thyroid Tumour	Thyroid Tumour				pSport1
S0462	Thyroid Thyroiditis	Thyroid Thyroiditis				pSport1
S0464	Larynx Normal	Larynx Normal				pSport1
S0468	Ea.hy.926 cell line	Ea.hy.926 cell line				pSport1
S0470	Adenocarcinoma	PYFD			disease	pSport1
S0472	Lung Mesothelium	PYBT				pSport1
S0474	Human blood platelets	Platelets	Blood platelets			Other
S0665	Human Amygdala; re-excision	Amygdala				Uni-ZAP XR
S3012	Smooth Muscle Serum Treated, Norm	Smooth muscle	Pulmonary artery	Cell Line		pBluescript
S3014	Smooth muscle, serum induced, re-exc	Smooth muscle	Pulmonary artery	Cell Line		pBluescript
S6014	H. hypothalamus, frac A	Hypothalamus	Brain			ZAP Express
S6016	H. Frontal Cortex, Epileptic	H. Brain, Frontal Cortex, Epileptic	Brain		disease	Uni-ZAP XR
S6022	H. Adipose Tissue	Human Adipose Tissue				Uni-ZAP XR
S6024	Alzheimers, spongy change	Alzheimer's/Spongy change	Brain		disease	Uni-ZAP XR
S6026	Frontal Lobe, Dementia	Frontal Lobe dementia/Alzheimer's	Brain			Uni-ZAP XR
S6028	Human Manic Depression Tissue	Human Manic depression tissue	Brain		disease	Uni-ZAP XR
T0001	Human Brown Fat	Brown Fat				pBluescript SK-

T0002	Activated T-cells	Activated T-Cell, PBL fraction	Blood	Cell Line		pBluescript SK-
T0003	Human Fetal Lung	Human Fetal Lung				pBluescript SK-
T0004	Human White Fat	Human White Fat				pBluescript SK-
T0006	Human Pineal Gland	Human Pineal Gland				pBluescript SK-
T0008	Colorectal Tumor	Colorectal Tumor			disease	pBluescript SK-
T0010	Human Infant Brain	Human Infant Brain				Other
T0023	Human Pancreatic Carcinoma	Human Pancreatic Carcinoma			disease	pBluescript SK-
T0039	HSA 172 Cells	Human HSA172 cell line				pBluescript SK-
T0040	HSC172 cells	SA172 Cells				pBluescript SK-
T0041	Jurkat T-cell G1 phase	Jurkat T-cell				pBluescript SK-
T0042	Jurkat T-Cell, S phase	Jurkat T-Cell Line				pBluescript SK-
T0048	Human Aortic Endothelium	Human Aortic Endothelium				pBluescript SK-
T0049	Aorta endothelial cells + TNF- α	Aorta endothelial cells				pBluescript SK-
T0060	Human White Adipose	Human White Fat				pBluescript SK-
T0067	Human Thyroid	Human Thyroid				pBluescript SK-
T0068	Normal Ovary, Premenopausal	Normal Ovary, Premenopausal				pBluescript SK-
T0069	Human Uterus, normal	Human Uterus, normal				pBluescript SK-
T0071	Human Bone Marrow	Human Bone Marrow				pBluescript SK-
T0078	Human Liver, normal adult	Human Liver, normal Adult				pBluescript SK-
T0082	Human Adult Retina	Human Adult Retina				pBluescript SK-
T0090	Liver, normal					pBluescript SK-
T0104	HCC cell line metastasis to liver					pBluescript SK-
T0109	Human (HCC) cell line liver (mouse) metastasis, remake					pBluescript SK-
T0110	Human colon carcinoma (HCC) cell line, remake					pBluescript SK-
T0112	Human (Caco-2) cell line, adenocarcinoma, colon					pBluescript SK-
T0114	Human (Caco-2) cell line, adenocarcinoma, colon, remake					pBluescript SK-
T0115	Human Colon Carcinoma (HCC) cell line					pBluescript SK-
L0002	Atrium cDNA library Human heart					
L0004	ClonTech HL 1065a					
L0005	Clontech human aorta polyA+ mRNA (#6572)					
L0009	EST from 8p21.3-p22					
L0015	Human					
L0021	Human adult (K Okubo)					
L0022	Human adult lung 3' directed Mbol cDNA					
L0032	Human chromosome 12p cDNAs					

L0040	Human colon mucosa					
L0041	Human epidermal keratinocyte					
L0045	Human keratinocyte differential display (B.Lin)					
L0052	Human normalized K562-cDNA					
L0055	Human promyelocyte					
L0060	Human thymus NSTH II					
L0065	Liver HepG2 cell line.					
L0103	DKFZphamy1	amygdala				
L0105	Human aorta polyA+ (TFujiwara)	aorta				
L0109	Human brain cDNA	brain				
L0118	Human fetal brain S. Meier-Ewert	brain				
L0138	Human normal gingiva	normal gingiva				
L0142	Human placenta cDNA (TFujiwara)	placenta				
L0143	Human placenta polyA+ (TFujiwara)	placenta				
L0149	DKFZphsnu1	subthalamic nucleus				
L0151	Human testis (C. De Smet)	testis				
L0157	Human fetal brain (TFujiwara)		brain			
L0163	Human heart cDNA (YNakamura)		heart			
L0194	Human pancreatic cancer cell line Patu 8988t	pancreatic cancer		Patu 8988t		
L0351	Infant brain, Bento Soares					BA, M13-derived
L0352	Normalized infant brain, Bento Soares					BA, M13-derived
L0361	Stratagene ovary (#937217)		ovary			Bluescript SK
L0362	Stratagene ovarian cancer (#937219)					Bluescript SK-
L0363	NCI_CGAP_GC2	germ cell tumor				Bluescript SK-
L0364	NCI_CGAP_GC5	germ cell tumor				Bluescript SK-
L0365	NCI_CGAP_Phe1	pheochromocytoma				Bluescript SK-
L0366	Stratagene schizo brain S11	schizophrenic brain S-11 frontal lobe				Bluescript SK-
L0367	NCI_CGAP_Sch1	Schwannoma tumor				Bluescript SK-
L0368	NCI_CGAP_SS1	synovial sarcoma				Bluescript SK-
L0369	NCI_CGAP_AA1	adrenal adenoma	adrenal gland			Bluescript SK-
L0370	Johnston frontal cortex	pooled frontal lobe	brain			Bluescript SK-
L0371	NCI_CGAP_Br3	breast tumor	breast			Bluescript SK-
L0372	NCI_CGAP_Co12	colon tumor	colon			Bluescript SK-
L0373	NCI_CGAP_Co11	tumor	colon			Bluescript SK-
L0374	NCI_CGAP_Co2	tumor	colon			Bluescript SK-
L0375	NCI_CGAP_Kid6	kidney tumor	kidney			Bluescript SK-
L0376	NCI_CGAP_Lar1	larynx	larynx			Bluescript SK-
L0377	NCI_CGAP_HN2	squamous cell carcinoma from vocal cord	larynx			Bluescript SK-
L0378	NCI_CGAP_Lu1	lung tumor	lung			Bluescript SK-
L0379	NCI_CGAP_Lym3	lymphoma	lymph node			Bluescript SK-

L0380	NCI_CGAP_HN1	squamous cell carcinoma	lymph node			Bluescript SK-
L0381	NCI_CGAP_HN4	squamous cell carcinoma	pharynx			Bluescript SK-
L0382	NCI_CGAP_Pr25	epithelium (cell line)	prostate			Bluescript SK-
L0383	NCI_CGAP_Pr24	invasive tumor (cell line)	prostate			Bluescript SK-
L0384	NCI_CGAP_Pr23	prostate tumor	prostate			Bluescript SK-
L0386	NCI_CGAP_HN3	squamous cell carcinoma from base of tongue	tongue			Bluescript SK-
L0387	NCI_CGAP_GCB0	germinal center B-cells	tonsil			Bluescript SK-
L0388	NCI_CGAP_HN6	normal gingiva (cell line from immortalized kerati				Bluescript SK-
L0389	NCI_CGAP_HN5	normal gingiva (cell line from primary keratinocyte)				Bluescript SK-
L0393	B, Human Liver tissue					gt11
L0394	H, Human adult Brain Cortex tissue					gt11
L0411	1-NIB					Lafmid BA
L0415	b4HB3MA-Cot8-HAP-Ft					Lafmid BA
L0422	b4HB3MA-Cot12-HAP-B					Lafmid BA
L0426	b4HB3MA-Cot51.5-HAP-Ft					Lafmid BA
L0435	Infant brain, LLNL array of Dr. M. Soares 1NIB					lafmid BA
L0438	normalized infant brain cDNA	total brain	brain			lafmid BA
L0439	Soares infant brain 1NIB		whole brain			Lafmid BA
L0443	b4HB3MK					Lafmid BK
L0447	NHB3MK					Lafmid BK
L0448	3HFLSK20					Lafmid K
L0451	N3HFLSK20					Lafmid K
L0453	BATM1					lambda gt10
L0455	Human retina cDNA randomly primed sublibrary	retina	eye			lambda gt10
L0456	Human retina cDNA Tsp509I-cleaved sublibrary	retina	eye			lambda gt10
L0457	multi-tissue normalized short-fragment	multi-tissue	pooled			lambda gt10
L0459	Adult heart, Clontech					Lambda gt11
L0462	WATM1					lambda gt11
L0468	HE6W					lambda zap
L0469	T, Human adult Rhabdomyosarcoma cell-line					Lambda Zap
L0470	BL29 Burkitt's lymphoma, Pascalis Sideras					lambda ZAP 2
L0471	Human fetal heart, Lambda ZAP Express					Lambda ZAP Express
L0475	KG1-a Lambda Zap Express cDNA library			KG1-a		Lambda Zap Express (Stratagene)
L0477	HPLA CCLee	placenta				Lambda ZAP II
L0480	Stratagene cat#937212 (1992)					Lambda ZAP, pBluescript SK(-

L0481	CD34+DIRECTIONAL)
L0483	Human pancreatic islet					Lambda ZAPII
L0485	STRATAGENE Human skeletal muscle cDNA library, cat. #936215.	skeletal muscle	leg muscle			Lambda ZAPII
L0493	NCL_CGAP_Ov26	papillary serous carcinoma	ovary			pAMP1
L0497	NCL_CGAP_HSC4	CD34+, CD38- from normal bone marrow donor	bone marrow			pAMP1
L0498	NCL_CGAP_HSC3	CD34+, T negative, patient with chronic myelogenous	bone marrow			pAMP1
L0499	NCL_CGAP_HSC2	stem cell 34+/38+	bone marrow			pAMP1
L0500	NCL_CGAP_Brn20	oligodendrogloma	brain			pAMP1
L0501	NCL_CGAP_Brn21	oligodendrogloma	brain			pAMP1
L0502	NCL_CGAP_Br15	adenocarcinoma	breast			pAMP1
L0503	NCL_CGAP_Br17	adenocarcinoma	breast			pAMP1
L0504	NCL_CGAP_Br13	breast carcinoma in situ	breast			pAMP1
L0505	NCL_CGAP_Br12	invasive carcinoma	breast			pAMP1
L0506	NCL_CGAP_Br16	lobular carcinoma in situ	breast			pAMP1
L0507	NCL_CGAP_Br14	normal epithelium	breast			pAMP1
L0508	NCL_CGAP_Lu25	bronchioalveolar carcinoma	lung			pAMP1
L0509	NCL_CGAP_Lu26	invasive adenocarcinoma	lung			pAMP1
L0510	NCL_CGAP_Ov33	borderline ovarian carcinoma	ovary			pAMP1
L0511	NCL_CGAP_Ov34	borderline ovarian carcinoma	ovary			pAMP1
L0512	NCL_CGAP_Ov36	borderline ovarian carcinoma	ovary			pAMP1
L0513	NCL_CGAP_Ov37	early stage papillary serous carcinoma	ovary			pAMP1
L0514	NCL_CGAP_Ov31	papillary serous carcinoma	ovary			pAMP1
L0515	NCL_CGAP_Ov32	papillary serous carcinoma	ovary			pAMP1
L0516	Chromosome 19p12-p13.1 exon					pAMP10
L0517	NCL_CGAP_Pr1					pAMP10
L0518	NCL_CGAP_Pr2					pAMP10
L0519	NCL_CGAP_Pr3					pAMP10
L0520	NCL_CGAP_Alv1	alveolar rhabdomyosarcoma				pAMP10
L0521	NCL_CGAP_Ew1	Ewing's sarcoma				pAMP10
L0522	NCL_CGAP_Kid1	kidney				pAMP10
L0523	NCL_CGAP_Lip2	liposarcoma				pAMP10
L0524	NCL_CGAP_Li1	liver				pAMP10
L0525	NCL_CGAP_Li2	liver				pAMP10

L0526	NCL_CGAP_Pr12	metastatic prostate bone lesion				pAMP10
L0527	NCL_CGAP_Ov2	ovary				pAMP10
L0528	NCL_CGAP_Pr5	prostate				pAMP10
L0529	NCL_CGAP_Pr6	prostate				pAMP10
L0530	NCL_CGAP_Pr8	prostate				pAMP10
L0531	NCL_CGAP_Pr20	prostate metastasis, liver				pAMP10
L0532	NCL_CGAP_Thy1	thyroid				pAMP10
L0533	NCL_CGAP_HSC1	stem cells	bone marrow			pAMP10
L0534	Chromosome 7 Fetal Brain cDNA Library	brain	brain			pAMP10
L0535	NCL_CGAP_Br5	infiltrating ductal carcinoma	breast			pAMP10
L0536	NCL_CGAP_Br4	normal ductal tissue	breast			pAMP10
L0539	Chromosome 7 Placental cDNA Library		placenta			pAMP10
L0540	NCL_CGAP_Pr10	invasive prostate tumor	prostate			pAMP10
L0541	NCL_CGAP_Pr7	low-grade prostatic neoplasia	prostate			pAMP10
L0542	NCL_CGAP_Pr11	normal prostatic epithelial cells	prostate			pAMP10
L0543	NCL_CGAP_Pr9	normal prostatic epithelial cells	prostate			pAMP10
L0544	NCL_CGAP_Pr4	prostatic intraepithelial neoplasia - high grade	prostate			pAMP10
L0545	NCL_CGAP_Pr4.1	prostatic intraepithelial neoplasia - high grade	prostate			pAMP10
L0547	NCL_CGAP_Pr16	tumor	prostate			pAMP10
L0549	NCL_CGAP_HN10	carcinoma in situ from retromolar trigone				pAMP10
L0550	NCL_CGAP_HN9	normal squamous epithelium from retromolar trigone				pAMP10
L0551	NCL_CGAP_HN7	normal squamous epithelium, floor of mouth				pAMP10
L0554	NCL_CGAP_Li8		liver			pAMP10
L0555	NCL_CGAP_Lu34	large cell carcinoma	lung			pAMP10
L0558	NCL_CGAP_Ov40	endometrioid ovarian metastasis	ovary			pAMP10
L0559	NCL_CGAP_Ov39	papillary serous ovarian metastasis	ovary			pAMP10
L0561	NCL_CGAP_HN11	normal squamous epithelium	tongue			pAMP10
L0562	Chromosome 7 HeLa cDNA Library			HeLa cell line; ATCC		pAMP10
L0563	Human Bone Marrow Stromal Fibroblast	bone marrow				pBluescript
L0564	Human bone marrow stroma	bone marrow				pBluescript

		stroma				
L0565	Normal Human Trabecular Bone Cells	Bone	Hip			pBluescript
L0581	Stratagene liver (#937224)		liver			pBluescript SK
L0584	Stratagene cDNA library Human heart, cat#936208					pBluescript SK(+)
L0586	HTCDL1					pBluescript SK(-)
L0587	Stratagene colon HT29 (#937221)					pBluescript SK-
L0588	Stratagene endothelial cell 937223					pBluescript SK-
L0589	Stratagene fetal retina 937202					pBluescript SK-
L0590	Stratagene fibroblast (#937212)					pBluescript SK-
L0591	Stratagene HeLa cell s3 937216					pBluescript SK-
L0592	Stratagene hNT neuron (#937233)					pBluescript SK-
L0593	Stratagene neuroepithelium (#937231)					pBluescript SK-
L0594	Stratagene neuroepithelium NT2RAMI 937234					pBluescript SK-
L0595	Stratagene NT2 neuronal precursor 937230	neuroepithelial cells	brain			pBluescript SK-
L0596	Stratagene colon (#937204)		colon			pBluescript SK-
L0597	Stratagene corneal stroma (#937222)		cornea			pBluescript SK-
L0598	Morton Fetal Cochlea	cochlea	ear			pBluescript SK-
L0599	Stratagene lung (#937210)		lung			pBluescript SK-
L0600	Weizmann Olfactory Epithelium	olfactory epithelium	nose			pBluescript SK-
L0601	Stratagene pancreas (#937208)		pancreas			pBluescript SK-
L0602	Pancreatic Islet	pancreatic islet	pancreas			pBluescript SK-
L0603	Stratagene placenta (#937225)		placenta			pBluescript SK-
L0604	Stratagene muscle 937209	muscle	skeletal muscle			pBluescript SK-
L0605	Stratagene fetal spleen (#937205)	fetal spleen	spleen			pBluescript SK-
L0606	NCL CGAP_Lym5	follicular lymphoma	lymph node			pBluescript SK-
L0607	NCL CGAP_Lym6	mantle cell lymphoma	lymph node			pBluescript SK-
L0608	Stratagene lung carcinoma 937218	lung carcinoma	lung	NCL-H69		pBluescript SK-
L0609	Schiller astrocytoma	astrocytoma	brain			pBluescript SK- (Stratagene)
L0611	Schiller meningioma	meningioma	brain			pBluescript SK- (Stratagene)
L0612	Schiller oligodendroglioma	oligodendroglioma	brain			pBluescript SK- (Stratagene)
L0615	22 week old human fetal liver cDNA library					pBluescriptII SK(-)
L0617	Chromosome 22 exon					pBluescriptIIKS+
L0619	Chromosome 9 exon II					pBluescriptIIKS+
L0622	HMI					pcDNAII (Invitrogen)
L0623	HM3	pectoral muscle (after				pcDNAII (Invitrogen)

		mastectomy)				
L0625	NCL_CGAP_AR1	bulk alveolar tumor				pCMV-SPORT2
L0626	NCL_CGAP_GC1	bulk germ cell seminoma				pCMV-SPORT2
L0627	NCL_CGAP_Co1	bulk tumor	colon			pCMV-SPORT2
L0628	NCL_CGAP_Ov1	ovary bulk tumor	ovary			pCMV-SPORT2
L0629	NCL_CGAP_Mel3	metastatic melanoma to bowel	bowel (skin primary)			pCMV-SPORT4
L0630	NCL_CGAP_CNS1	substantia nigra	brain			pCMV-SPORT4
L0631	NCL_CGAP_Br7		breast			pCMV-SPORT4
L0632	NCL_CGAP_Li5	hepatic adenoma	liver			pCMV-SPORT4
L0633	NCL_CGAP_Lu6	small cell carcinoma	lung			pCMV-SPORT4
L0634	NCL_CGAP_Ov8	serous adenocarcinoma	ovary			pCMV-SPORT4
L0635	NCL_CGAP_PNS1	dorsal root ganglion	peripheral nervous system			pCMV-SPORT4
L0636	NCL_CGAP_Pit1	four pooled pituitary adenomas	brain			pCMV-SPORT6
L0637	NCL_CGAP_Brn53	three pooled meningiomas	brain			pCMV-SPORT6
L0638	NCL_CGAP_Brn35	tumor, 5 pooled (see description)	brain			pCMV-SPORT6
L0639	NCL_CGAP_Brn52	tumor, 5 pooled (see description)	brain			pCMV-SPORT6
L0640	NCL_CGAP_Br18	four pooled high-grade tumors, including two prima	breast			pCMV-SPORT6
L0641	NCL_CGAP_Co17	juvenile granulosa tumor	colon			pCMV-SPORT6
L0642	NCL_CGAP_Co18	moderately differentiated adenocarcinoma	colon			pCMV-SPORT6
L0643	NCL_CGAP_Co19	moderately differentiated adenocarcinoma	colon			pCMV-SPORT6
L0644	NCL_CGAP_Co20	moderately differentiated adenocarcinoma	colon			pCMV-SPORT6
L0645	NCL_CGAP_Co21	moderately differentiated adenocarcinoma	colon			pCMV-SPORT6
L0646	NCL_CGAP_Co14	moderately-differentiated adenocarcinoma	colon			pCMV-SPORT6
L0647	NCL_CGAP_Sar4	five pooled sarcomas, including myxoid liposarcoma	connective tissue			pCMV-SPORT6
L0648	NCL_CGAP_Eso2	squamous cell carcinoma	esophagus			pCMV-SPORT6
L0649	NCL_CGAP_GU1	2 pooled high-grade transitional cell tumors	genitourinary tract			pCMV-SPORT6
L0650	NCL_CGAP_Kid13	2 pooled Wilms' tumors, one primary and one metast	kidney			pCMV-SPORT6
L0651	NCL_CGAP_Kid8	renal cell tumor	kidney			pCMV-SPORT6
L0652	NCL_CGAP_Lu27	four pooled	lung			pCMV-SPORT6

		poorly-differentiated adenocarcinomas				
L0653	NCL_CGAP_Lu28	two pooled squamous cell carcinomas	lung			pCMV-SPORT6
L0654	NCL_CGAP_Lu31		lung, cell line			pCMV-SPORT6
L0655	NCL_CGAP_Lym12	lymphoma, follicular mixed small and large cell	lymph node			pCMV-SPORT6
L0656	NCL_CGAP_Ov38	normal epithelium	ovary			pCMV-SPORT6
L0657	NCL_CGAP_Ov23	tumor, 5 pooled (see description)	ovary			pCMV-SPORT6
L0658	NCL_CGAP_Ov35	tumor, 5 pooled (see description)	ovary			pCMV-SPORT6
L0659	NCL_CGAP_Pan1	adenocarcinoma	pancreas			pCMV-SPORT6
L0661	NCL_CGAP_Mel15	malignant melanoma, metastatic to lymph node	skin			pCMV-SPORT6
L0662	NCL_CGAP_Gas4	poorly differentiated adenocarcinoma with signet r	stomach			pCMV-SPORT6
L0663	NCL_CGAP_Ut2	moderately-differentiated endometrial adenocarcino	uterus			pCMV-SPORT6
L0664	NCL_CGAP_Ut3	poorly-differentiated endometrial adenocarcinoma,	uterus			pCMV-SPORT6
L0665	NCL_CGAP_Ut4	serous papillary carcinoma, high grade, 2 pooled t	uterus			pCMV-SPORT6
L0666	NCL_CGAP_Ut1	well-differentiated endometrial adenocarcinoma,	uterus			pCMV-SPORT6
L0667	NCL_CGAP_CML1	myeloid cells, 18 pooled CML cases, BCR/ABL reara	whole blood			pCMV-SPORT6
L0669	Human MCF7 cDNA subtracted with MDA-MB-231 cDNA	breast adenocarcinoma	breast	MCF7		pCR II [Invitrogen]
L0684	Stanley Frontal SB pool 1	frontal lobe (see description)	brain			pCR2.1-TOPO (Invitrogen)
L0685	Stanley Frontal SN pool 1	frontal lobe (see description)	brain			pCR2.1-TOPO (Invitrogen)
L0686	Stanley Frontal SN pool 2	frontal lobe (see description)	brain			pCR2.1-TOPO (Invitrogen)
L0695	Human Glioblastoma Cell		Brain	BT-325		PCR II, Invitrogen
L0697	Testis 1					PGEM 5zf(+)
L0698	Testis 2					PGEM 5zf(+)
L0700	Outward Alu-primed hncDNA library					pGEM-3Z
L0717	Gessler Wilms tumor					pSPORT1
L0718	Testis 5					pSPORT1
L0731	Soares_pregnant_uterus_NbHPU		uterus			pT7T3-Pac

L0738	Human colorectal cancer					pT7T3D
L0740	Soares melanocyte 2NbHM	melanocyte				pT7T3D (Pharmacia) with a modified polylinker
L0741	Soares adult brain N2b4HB55Y		brain			pT7T3D (Pharmacia) with a modified polylinker
L0742	Soares adult brain N2b5HB55Y		brain			pT7T3D (Pharmacia) with a modified polylinker
L0743	Soares breast 2NbHBst		breast			pT7T3D (Pharmacia) with a modified polylinker
L0744	Soares breast 3NbHBst		breast			pT7T3D (Pharmacia) with a modified polylinker
L0745	Soares retina N2b4HR	retina	eye			pT7T3D (Pharmacia) with a modified polylinker
L0746	Soares retina N2b5HR	retina	eye			pT7T3D (Pharmacia) with a modified polylinker
L0747	Soares_fetal_heart_NbHH19W		heart			pT7T3D (Pharmacia) with a modified polylinker
L0748	Soares fetal liver spleen 1NFLS		Liver and Spleen			pT7T3D (Pharmacia) with a modified polylinker
L0749	Soares_fetal_liver_spleen_1NFLS_S1		Liver and Spleen			pT7T3D (Pharmacia) with a modified polylinker
L0750	Soares_fetal_lung_NbHL19W		lung			pT7T3D (Pharmacia) with a modified polylinker
L0751	Soares ovary tumor NbHOT	ovarian tumor	ovary			pT7T3D (Pharmacia) with a modified polylinker
L0752	Soares_parathyroid_tumor_NbHPA	parathyroid tumor	parathyroid gland			pT7T3D (Pharmacia) with a modified polylinker
L0753	Soares_pineal_gland_N3H PG		pineal gland			pT7T3D (Pharmacia) with a modified polylinker
L0754	Soares placenta Nb2HP		placenta			pT7T3D (Pharmacia) with a modified polylinker
L0755	Soares_placenta_8to9week_2NbHP8to9W		placenta			pT7T3D (Pharmacia) with a modified polylinker
L0756	Soares_multiple_sclerosis	multiple sclerosis				pT7T3D

	_2NbHMSF	lesions				(Pharmacia) with a modified polylinker V_TYPE
L0757	Soares_senescent_fibroblasts_NbHSF	senescent fibroblast				pT7T3D (Pharmacia) with a modified polylinker V_TYPE
L0758	Soares_testis_NHT					pT7T3D-Pac (Pharmacia) with a modified polylinker
L0759	Soares_total_fetus_Nb2H F8_9w					pT7T3D-Pac (Pharmacia) with a modified polylinker
L0760	Barstead aorta HPLRB3	aorta				pT7T3D-Pac (Pharmacia) with a modified polylinker
L0761	NCL_CGAP_CLL1	B-cell, chronic lymphocytic leukemia				pT7T3D-Pac (Pharmacia) with a modified polylinker
L0762	NCL_CGAP_Br1.1	breast				pT7T3D-Pac (Pharmacia) with a modified polylinker
L0763	NCL_CGAP_Br2	breast				pT7T3D-Pac (Pharmacia) with a modified polylinker
L0764	NCL_CGAP_Co3	colon				pT7T3D-Pac (Pharmacia) with a modified polylinker
L0765	NCL_CGAP_Co4	colon				pT7T3D-Pac (Pharmacia) with a modified polylinker
L0766	NCL_CGAP_GCB1	germinal center B cell				pT7T3D-Pac (Pharmacia) with a modified polylinker
L0767	NCL_CGAP_GC3	pooled germ cell tumors				pT7T3D-Pac (Pharmacia) with a modified polylinker
L0768	NCL_CGAP_GC4	pooled germ cell tumors				pT7T3D-Pac (Pharmacia) with a modified polylinker
L0769	NCL_CGAP_Brn25	anaplastic oligodendroglioma	brain			pT7T3D-Pac (Pharmacia) with a modified polylinker
L0770	NCL_CGAP_Brn23	glioblastoma (pooled)	brain			pT7T3D-Pac (Pharmacia) with a modified polylinker
L0771	NCL_CGAP_Co8	adenocarcinoma	colon			pT7T3D-Pac (Pharmacia) with a modified polylinker
L0772	NCL_CGAP_Co10	colon tumor	colon			pT7T3D-Pac

		RER+				(Pharmacia) with a modified polylinker
L0773	NCL_CGAP_Co9	colon tumor RER+	colon			pT7T3D-Pac (Pharmacia) with a modified polylinker
L0774	NCL_CGAP_Kid3		kidney			pT7T3D-Pac (Pharmacia) with a modified polylinker
L0775	NCL_CGAP_Kid5	2 pooled tumors (clear cell type)	kidney			pT7T3D-Pac (Pharmacia) with a modified polylinker
L0776	NCL_CGAP_Lu5	carcinoid	lung			pT7T3D-Pac (Pharmacia) with a modified polylinker
L0777	Soares_NhHMPu_S1	Pooled human melanocyte, fetal heart, and pregnant	mixed (see below)			pT7T3D-Pac (Pharmacia) with a modified polylinker
L0779	Soares_NFL_T_GBC_S1		pooled			pT7T3D-Pac (Pharmacia) with a modified polylinker
L0780	Soares_NSIF_F8_9W_OT_PA_P_S1		pooled			pT7T3D-Pac (Pharmacia) with a modified polylinker
L0782	NCL_CGAP_Pr21	normal prostate	prostate			pT7T3D-Pac (Pharmacia) with a modified polylinker
L0783	NCL_CGAP_Pr22	normal prostate	prostate			pT7T3D-Pac (Pharmacia) with a modified polylinker
L0784	NCL_CGAP_Lei2	leiomyosarcoma	soft tissue			pT7T3D-Pac (Pharmacia) with a modified polylinker
L0785	Barstead spleen HPLRB2		spleen			pT7T3D-Pac (Pharmacia) with a modified polylinker
L0786	Soares_NbHFB		whole brain			pT7T3D-Pac (Pharmacia) with a modified polylinker
L0787	NCL_CGAP_Sub1					pT7T3D-Pac (Pharmacia) with a modified polylinker
L0788	NCL_CGAP_Sub2					pT7T3D-Pac (Pharmacia) with a modified polylinker
L0789	NCL_CGAP_Sub3					pT7T3D-Pac (Pharmacia) with a modified polylinker
L0790	NCL_CGAP_Sub4					pT7T3D-Pac (Pharmacia) with a modified

						polylinker
L0791	NCL_CGAP_Sub5					pT7T3D-Pac (Pharmacia) with a modified polylinker
L0792	NCL_CGAP_Sub6					pT7T3D-Pac (Pharmacia) with a modified polylinker
L0793	NCL_CGAP_Sub7					pT7T3D-Pac (Pharmacia) with a modified polylinker
L0794	NCL_CGAP_GC6	pooled germ cell tumors				pT7T3D-Pac (Pharmacia) with a modified polylinker
L0796	NCL_CGAP_Brn50	medulloblastoma	brain			pT7T3D-Pac (Pharmacia) with a modified polylinker
L0800	NCL_CGAP_Co16	colon tumor, RER+	colon			pT7T3D-Pac (Pharmacia) with a modified polylinker
L0803	NCL_CGAP_Kid11		kidney			pT7T3D-Pac (Pharmacia) with a modified polylinker
L0804	NCL_CGAP_Kid12	2 pooled tumors (clear cell type)	kidney			pT7T3D-Pac (Pharmacia) with a modified polylinker
L0805	NCL_CGAP_Lu24	carcinoid	lung			pT7T3D-Pac (Pharmacia) with a modified polylinker
L0806	NCL_CGAP_Lu19	squamous cell carcinoma, poorly differentiated (4	lung			pT7T3D-Pac (Pharmacia) with a modified polylinker
L0807	NCL_CGAP_Ov18	fibrotheoma	ovary			pT7T3D-Pac (Pharmacia) with a modified polylinker
L0808	Barstead prostate BPH HPLRB4 1		prostate			pT7T3D-Pac (Pharmacia) with a modified polylinker
L0809	NCL_CGAP_Pr28		prostate			pT7T3D-Pac (Pharmacia) with a modified polylinker
L2251	Human fetal lung	Fetal lung				
L3904	NCL_CGAP_Brn64	glioblastoma with EGFR amplification	brain			pCMV-SPORT6
L3905	NCL_CGAP_Brn67	anaplastic oligodendroglioma with 1p/19q loss	brain			pCMV-SPORT6
L4497	NCL_CGAP_Br22	invasive ductal carcinoma, 3 pooled samples	breast			pCMV-SPORT6
L4500	NCL_CGAP_HN16	moderate to poorly	mouth			pAMP10

		differentiated invasive carcino				
L4501	NCI_CGAP_Sub8					pT7T3D-Pac (Pharmacia) with a modified polylinker
L4508	NCI_CGAP_Thy8	normal epithelium	thyroid			pAMP10
L4558	NCI_CGAP_Pan3		pancreas			pCMV-SPORT6
L4559	NCI_CGAP_Thy3	follicular carcinoma	thyroid			pCMV-SPORT6
L4747	NCI_CGAP_Brn41	oligodendroglio ma	brain			pT7T3D-Pac (Pharmacia) with a modified polylinker
L5564	NCI_CGAP_HN20		normal head/neck tissue			pAMP1
L5565	NCI_CGAP_Brn66	glioblastoma with probably TP53 mutation and witho	brain			pCMV-SPORT6
L5566	NCI_CGAP_Brn70	anaplastic oligodendroglio ma	brain			pCMV- SPORT6.ccdB
L5568	NCI_CGAP_HN21	nasopharyngeal carcinoma	head/neck			pAMP1
L5569	NCI_CGAP_HN17	normal epithelium	nasopharyn x			pAMP10
L5572	NCI_CGAP_Co27	adenocarcinoma (mucinous component)	colon			pAMP1
L5574	NCI_CGAP_HN19	normal epithelium	nasopharyn x			pAMP10
L5575	NCI_CGAP_Brn65	glioblastoma without EGFR amplification	brain			pCMV-SPORT6
L5622	NCI_CGAP_Skn3		skin			pCMV-SPORT6
L5623	NCI_CGAP_Skn4	squamous cell carcinoma	skin			pCMV-SPORT6

TABLE 5

OMIM Reference	Description
100690	Myasthenic syndrome, slow-channel congenital, 601462
100710	Myasthenic syndrome, slow-channel congenital, 601462
100730	Myasthenia gravis, neonatal transient
101000	Meningioma, NF2-related, sporadic Schwannoma, sporadic
101000	Neurofibromatosis, type 2
101000	Neurolemmomatosis
101000	Malignant mesothelioma, sporadic
102200	Somatotrophinoma

102700	Severe combined immunodeficiency due to ADA deficiency
102700	Hemolytic anemia due to ADA excess
103050	Autism, succinylpurinemic
103050	Adenylosuccinase deficiency
103600	[Dysalbuminemic hyperthyroxinemia]
103600	[Dysalbuminemic hyperzincemia], 194470
103600	Analbuminemia
103850	Aldolase A deficiency
103950	Emphysema due to alpha-2-macroglobulin deficiency
104150	[AFP deficiency, congenital]
104150	[Hereditary persistence of alpha-fetoprotein]
104311	Alzheimer disease-3
104500	Amelogenesis imperfecta-2, hypoplastic local type
104770	Amyloidosis, secondary, susceptibility to
106100	Angioedema, hereditary
106150	Hypertension, essential, susceptibility to
106150	Preeclampsia, susceptibility to
106300	Ankylosing spondylitis
107250	Anterior segment mesenchymal dysgenesis
107670	Apolipoprotein A-II deficiency
107741	Hyperlipoproteinemia, type III
107777	Diabetes insipidus, nephrogenic, autosomal recessive, 222000
108725	Atherosclerosis, susceptibility to
108800	Atrial septal defect, secundum type
109150	Machado-Joseph disease
109270	Renal tubular acidosis, distal, 179800
109270	Spherocytosis, hereditary
109270	[Acanthocytosis, one form]
109270	[Elliptocytosis, Malaysian-Melanesian type]
109270	Hemolytic anemia due to band 3 defect
110700	Vivax malaria, susceptibility to
112410	Hypertension with brachydactyly
113900	Heart block, progressive familial, type I
114290	Campomelic dysplasia with autosomal sex reversal
114835	Monocyte carboxyesterase deficiency
115665	Cataract, congenital, Volkmann type
116800	Cataract, Marnier type
116860	Cavernous angiomatic malformations
118210	Charcot-Marie-Tooth neuropathy-2A
118485	Polycystic ovary syndrome with hyperandrogenemia
118800	Choreoathetosis, familial paroxysmal
120070	Alport syndrome, autosomal recessive, 203780
120110	Metaphyseal chondrodysplasia, Schmid type
120131	Alport syndrome, autosomal recessive, 203780
120131	Hematuria, familial benign
120140	Osteoarthritis, precocious

120140	SED congenita
120140	SMED Strudwick type
120140	Stickler syndrome, type I
120140	Wagner syndrome, type II
120140	Achondrogenesis-hypochondrogenesis, type II
120140	Kniest dysplasia
120150	Osteogenesis imperfecta, 4 clinical forms, 166200, 166210, 259420, 166220
120150	Osteoporosis, idiopathic, 166710
120150	Ehlers-Danlos syndrome, type VIIA1, 130060
120260	Epiphyseal dysplasia, multiple, type 2, 600204
120290	OSMED syndrome, 215150
120290	Stickler syndrome, type II, 184840
120550	C1q deficiency, type A
120570	C1q deficiency, type B
120575	C1q deficiency, type C
120700	C3 deficiency
120810	C4 deficiency
120820	C4 deficiency
121014	Heterotaxia, viscerotaxial, autosomal recessive
121800	Corneal dystrophy, crystalline, Schnyder
122720	Nicotine addiction, protection from
122720	Coumarin resistance, 122700
123000	Craniofacial dysplasia
123101	Craniosynostosis, type 2
123270	[Creatine kinase, brain type, ectopic expression of]
123620	Cataract, cerulean, type 2, 601547
123660	Cataract, Coppock-like
123940	White sponge nevus, 193900
124030	Parkinsonism, susceptibility to
124030	Debrisoquine sensitivity
125660	Myopathy, desminopathic
125660	Cardiomyopathy
125852	Insulin-dependent diabetes mellitus-2
126337	Myxoid liposarcoma
126340	Xeroderma pigmentosum, group D, 278730
126391	DNA ligase I deficiency
126451	Schizophrenia, susceptibility to
126452	Autonomic nervous system dysfunction
126452	[Novelty seeking personality]
126600	Drusen, radial, autosomal dominant
126650	Chloride diarrhea, congenital, Finnish type, 214700
126650	Colon cancer
129900	EEC syndrome-1
130410	Glutaricaciduria, type IIB
130500	Elliptocytosis-1
130650	Beckwith-Wiedemann syndrome

131100	Multiple endocrine neoplasia I
131100	Prolactinoma, hyperparathyroidism, carcinoid syndrome
131100	Carcinoid tumor of lung
131400	Eosinophilia, familial
133171	[Erythrocytosis, familial], 133100
133200	Erythrokeratoderma variabilis
133450	Neuroepithelioma
133450	Ewing sarcoma
133701	Exostoses, multiple, type 2
133780	Vitreoretinopathy, exudative, familial
134580	Factor XIII B deficiency
134790	Hyperferritinemia-cataract syndrome, 600886
134820	Dysfibrinogenemia, alpha type, causing bleeding diathesis
134820	Dysfibrinogenemia, alpha type, causing recurrent thrombosis
134820	Amyloidosis, hereditary renal, 105200
134830	Dysfibrinogenemia, beta type
134850	Dysfibrinogenemia, gamma type
134850	Hypofibrinogenemia, gamma type
135600	Ehlers-Danlos syndrome, type X
135700	Fibrosis of extraocular muscles, congenital, 1
135940	Ichthyosis vulgaris, 146700
136435	Ovarian dysgenesis, hypergonadotropic, with normal karyotype, 233300
136836	Fucosyltransferase-6 deficiency
138030	[Hyperproglucagonemia]
138033	Diabetes mellitus, type II
138079	Hyperinsulinism, familial, 602485
138079	MODY, type 2, 125851
138130	Hyperinsulinism-hyperammonemia syndrome
138140	Glucose transport defect, blood-brain barrier
138190	Diabetes mellitus, noninsulin-dependent
138570	Non-insulin dependent diabetes mellitus, susceptibility to
138720	Bernard-Soulier syndrome, type B
138981	Pulmonary alveolar proteinosis, 265120
139350	Epidermolytic hyperkeratosis, 113800
139350	Keratoderma, palmoplantar, nonepidermolytic
140100	[Anhaptoglobinemia]
140100	[Hypohaptoglobinemia]
141900	Methemoglobinemias, beta-
141900	Sickle cell anemia
141900	Thalassemias, beta-
141900	Erythremias, beta-
141900	HPFH, deletion type
141900	Heinz body anemias, beta-
142000	Thalassemia due to Hb Lepore
142000	Thalassemia, delta-
142200	HPFH, nondeletion type A

142250	HPFH, nondeletion type G
142270	Hereditary persistence of fetal hemoglobin
142857	Pemphigoid, susceptibility to
142858	Beryllium disease, chronic, susceptibility to
142989	Synpolydactyly, type II, 186000
143890	Hypercholesterolemia, familial
145001	Hyperparathyroidism-jaw tumor syndrome
145260	Pseudohypoadosteronism, type II
145410	Opitz G syndrome, type II
145981	Hypocalciuric hypercalcemia, type II
146760	[IgG receptor I, phagocytic, familial deficiency of]
146790	Lupus nephritis, susceptibility to
147050	Atopy
147061	Allergy and asthma susceptibility
147141	Leukemia, acute lymphoblastic
147200	[Kappa light chain deficiency]
147545	Diabetes mellitus, noninsulin-dependent
147575	Myelodysplastic syndrome, preleukemic
147575	Myelogenous leukemia, acute
147575	Macrocytic anemia refractory, of 5q- syndrome, 153550
147670	Rabson-Mendenhall syndrome
147670	Diabetes mellitus, insulin-resistant, with acanthosis nigricans
147670	Leprechaunism
148040	Epidermolysis bullosa simplex, Koebner, Dowling-Meara, and Weber-Cockayne types, 131900, 131760, 131800
148041	Pachyonychia congenita, Jadassohn-Lewandowsky type, 167200
148043	Meesmann corneal dystrophy, 122100
148065	White sponge nevus, 193900
148070	Liver disease, susceptibility to, from hepatotoxins or viruses
148080	Epidermolytic hyperkeratosis, 113800
148370	Keratolytic winter erythema
150000	Exertional myoglobinuria due to deficiency of LDH-A
150250	Larsen syndrome, autosomal dominant
150270	Laryngeal adductor paralysis
150292	Epidermolysis bullosa, Herlitz junctional type, 226700
151410	Leukemia, chronic myeloid
151440	Leukemia, T-cell acute lymphoblastoid
151670	Hepatic lipase deficiency
152445	Vohwinkel syndrome, 124500
152445	Erythrokeratoderma, progressive symmetric, 602036
152760	Hypogonadotropic hypogonadism due to GNRH deficiency, 227200
153454	Ehlers-Danlos syndrome, type VI, 225400
153455	Cutis laxa, recessive, type I, 219100
153700	Macular dystrophy, vitelliform type
154275	Malignant hyperthermia susceptibility 2

154276	Malignant hyperthermia susceptibility 3
154705	Marfan syndrome, type II
155600	Malignant melanoma, cutaneous
156225	Muscular dystrophy, congenital merosin-deficient
156232	Mesomelic dysplasia, Kantaputra type
156845	Tietz syndrome, 103500
156845	Waardenburg syndrome, type IIA, 193510
156845	Waardenburg syndrome/ocular albinism, digenic, 103470
157147	Abetalipoproteinemia, 200100
157640	PEO with mitochondrial DNA deletions, type 1
157655	Lactic acidosis due to defect in iron-sulfur cluster of complex I
159000	Muscular dystrophy, limb-girdle, type 1A
159001	Muscular dystrophy, limb-girdle, type 1B
160900	Myotonic dystrophy
161015	Mitochondrial complex I deficiency, 252010
162100	Neuralgic amyotrophy with predilection for brachial plexus
164009	Leukemia, acute promyelocytic, NUMA/RARA type
164040	Leukemia, acute promyelocytic, NPM/RARA type
164200	Oculodentodigital dysplasia
164200	Syndactyly, type III, 186100
164500	Spinocerebellar ataxia-7
164731	Ovarian carcinoma, 167000
164920	Piebaldism
164920	Mast cell leukemia
164920	Mastocytosis with associated hematologic disorder
164953	Liposarcoma
165240	Pallister-Hall syndrome, 146510
165240	Postaxial polydactyly type A1, 174200
165240	Greig cephalopolysyndactyly syndrome, 175700
167250	Paget disease of bone
167410	Rhabdomyosarcoma, alveolar, 268220
168360	Paraneoplastic sensory neuropathy
168461	Multiple myeloma, 254250
168461	Parathyroid adenomatosis 1
168461	Centrocytic lymphoma
168470	Humoral hypercalcemia of malignancy
168500	Parietal foramina
170261	Bare lymphocyte syndrome, type I, due to TAP2 deficiency
170500	Myotonia congenita, atypical acetazolamide-responsive
170500	Paramyotonia congenita, 168300
170500	Hyperkalemic periodic paralysis
170650	Periodontitis, juvenile
171190	Hypertension, essential, 145500
171650	Lysosomal acid phosphatase deficiency
171760	Hypophosphatasia, adult, 146300
171760	Hypophosphatasia, infantile, 241500

172400	Hemolytic anemia due to glucosephosphate isomerase deficiency
172400	Hydrops fetalis, one form
172430	Enolase deficiency
173360	Thrombophilia due to excessive plasminogen activator inhibitor
173360	Hemorrhagic diathesis due to PAI1 deficiency
173850	Polio, susceptibility to
173870	Xeroderma pigmentosum
173870	Fanconi anemia
173910	Polycystic kidney disease, adult, type II
174000	Medullary cystic kidney disease, AD
174900	Polyposis, juvenile intestinal
176100	Porphyria cutanea tarda
176100	Porphyria, hepatoerythropoietic
176730	Diabetes mellitus, rare form
176730	Hyperproinsulinemia, familial
176730	MODY, one form
176930	Dysprothrombinemia
176930	Hypoprothrombinemia
176943	Apert syndrome, 101200
176943	Pfeiffer syndrome, 101600
176943	Beare-Stevenson cutis gyrata syndrome, 123790
176943	Crouzon craniofacial dysostosis, 123500
176943	Jackson-Weiss syndrome, 123150
177070	Spherocytosis, hereditary, Japanese type
177070	Hermansky-Pudlak syndrome, 203300
177900	Psoriasis susceptibility-1
178300	Ptois, hereditary congenital, 1
178600	Pulmonary hypertension, familial primary
178640	Pulmonary alveolar proteinosis, congenital, 265120
179450	Ragweed sensitivity
179755	Renal cell carcinoma, papillary, 1
180071	Retinitis pigmentosa, autosomal recessive
180100	Retinitis pigmentosa-1
180104	Retinitis pigmentosa-9
180105	Retinitis pigmentosa-10
180721	Retinitis pigmentosa, digenic
180840	Susceptibility to IDDM
180860	Russell-Silver syndrome
180901	Malignant hyperthermia susceptibility 1, 145600
180901	Central core disease, 117000
181405	Scapuloperoneal spinal muscular atrophy, New England type
181430	Scapuloperoneal syndrome, myopathic type
181460	Schistosoma mansoni, susceptibility/resistance to
181600	Sclerostylosis
182280	Small-cell cancer of lung
182380	Glucose/galactose malabsorption

182500	Cataract, congenital
182600	Spastic paraplegia-3A
182860	Pyropoikilocytosis
182860	Spherocytosis, recessive
182860	Elliptocytosis-2
185430	Atherosclerosis, susceptibility to
185470	Myopathy due to succinate dehydrogenase deficiency
185800	Symphalangism, proximal
186860	Leukemia/lymphoma, T-cell
188070	Bleeding disorder due to defective thromboxane A2 receptor
188826	Sorsby fundus dystrophy, 136900
189800	Preeclampsia/eclampsia
190020	Bladder cancer, 109800
190040	Meningioma, SIS-related
190040	Dermatofibrosarcoma protuberans
190040	Giant-cell fibroblastoma
190160	Thyroid hormone resistance, 274300, 188570
190900	Colorblindness, tritan
191010	Cardiomyopathy, familial hypertrophic, 3, 115196
191044	Cardiomyopathy, familial hypertrophic
191170	Colorectal cancer, 114500
191170	Li-Fraumeni syndrome
191181	Cervical carcinoma
191290	Segawa syndrome, recessive
191315	Insensitivity to pain, congenital, with anhidrosis, 256800
192090	Ovarian carcinoma
192090	Breast cancer, lobular
192090	Endometrial carcinoma
192090	Gastric cancer, familial, 137215
192500	Jervell and Lange-Nielsen syndrome, 220400
192500	Long QT syndrome-1
193235	Vitreoretinopathy, neovascular inflammatory
193500	Rhabdomyosarcoma, alveolar, 268220
193500	Waardenburg syndrome, type I
193500	Waardenburg syndrome, type III, 148820
193500	Craniofacial-deafness-hand syndrome, 122880
194071	Wilms tumor, type 2
194071	Adrenocortical carcinoma, hereditary, 202300
200990	Acrocallosal syndrome
201460	Acyl-CoA dehydrogenase, long chain, deficiency of
201910	Adrenal hyperplasia, congenital, due to 21-hydroxylase deficiency
203100	Waardenburg syndrome/ocular albinism, digenic, 103470
203100	Albinism, oculocutaneous, type 1A
203300	Hermansky-Pudlak syndrome
203740	Alpha-ketoglutarate dehydrogenase deficiency
203800	Alstrom syndrome

204500	Ceroid-lipofuscinosis, neuronal 2, classic late infantile
205100	Amyotrophic lateral sclerosis, juvenile
207750	Hyperlipoproteinemia, type Ib
208100	Arthrogryposis multiplex congenita, neurogenic
208250	Jacobs syndrome
209901	Bardet-Biedl syndrome 1
211420	Breast cancer, ductal
216900	Achromatopsia
217000	C2 deficiency
218000	Andermann syndrome
219800	Cystinosis, nephropathic
221770	Polycystic lipomembranous osteodysplasia with sclerosing leukencephalopathy
221820	Gliosis, familial progressive subcortical
222100	Diabetes mellitus, insulin-dependent-1
222800	Hemolytic anemia due to bisphosphoglycerate mutase deficiency
227220	[Eye color, brown]
227646	Fanconi anemia, type D
230000	Fucosidosis
230350	Galactose epimerase deficiency
230800	Gaucher disease
230800	Gaucher disease with cardiovascular calcification
231550	Achalasia-addisonianism-alacrima syndrome
231670	Glutaricaciduria, type I
231680	Glutaricaciduria, type IIA
231950	Glutathioninuria
232600	McArdle disease
232800	Glycogen storage disease VII
233100	[Renal glucosuria]
233700	Chronic granulomatous disease due to deficiency of NCF-1
235200	Hemochromatosis
236730	Urofacial syndrome
237300	Carbamoylphosphate synthetase I deficiency
238600	Chylomicronemia syndrome, familial
238600	Combined hyperlipemia, familial
238600	Hyperlipoproteinemia I
238600	Lipoprotein lipase deficiency
239500	Hyperprolinemia, type I
243500	Isovalericacidemia
245000	Papillon-Lefevre syndrome
245200	Krabbe disease
245900	Norur disease
245900	Fish-eye disease
246450	HMG-CoA lyase deficiency
246530	Leukotriene C4 synthase deficiency
246900	Lipoamide dehydrogenase deficiency

248510	Mannosidosis, beta-
248600	Maple syrup urine disease, type Ia
248611	Maple syrup urine disease, type Ib
249000	Meckel syndrome
251600	Microphthalmia, autosomal recessive
252500	Mucopolipidosis II
252500	Mucopolipidosis III
253250	Mulibrey nanism
254210	Myasthenia gravis, familial infantile
255800	Schwartz-Jampel syndrome
256550	Sialidosis, type I
256550	Sialidosis, type II
256700	Neuroblastoma
257200	Niemann-Pick disease, type A
257200	Niemann-Pick disease, type B
258501	3-methylglutaconicaciduria, type III
258870	Gyrate atrophy of choroid and retina with ornithinemia, B6 responsive or unresponsive
259700	Osteopetrosis, recessive
259770	Osteoporosis-pseudoglioma syndrome
259900	Hyperoxaluria, primary, type I
261510	Pseudo-Zellweger syndrome
261670	Myopathy due to phosphoglycerate mutase deficiency
262000	Bjornstad syndrome
263700	Porphyria, congenital erythropoietic
264470	Adrenoleukodystrophy, pseudoneonatal
266200	Anemia, hemolytic, due to PK deficiency
266300	[Hair color, red]
270100	Situs inversus viscerum
271900	Canavan disease
272750	GM2-gangliosidosis, AB variant
272800	Tay-Sachs disease
272800	[Hex A pseudodeficiency]
272800	GM2-gangliosidosis, juvenile, adult
274180	Thromboxane synthase deficiency
275350	Transcobalamin II deficiency
276600	Tyrosinemia, type II
276700	Tyrosinemia, type I
276900	Usher syndrome, type 1A
276901	Usher syndrome, type 2
277730	Wernicke-Korsakoff syndrome, susceptibility to
278250	Wrinkly skin syndrome
300008	Nephrolithiasis, type I, 310468
300008	Proteinuria, low molecular weight, with hypercalciuric nephrocalcinosis
300008	Dent disease, 300009
300008	Hypophosphatemia, type III

300031	Mental retardation, X-linked, FRAXF type
300044	Wernicke-Korsakoff syndrome, susceptibility to
300046	Mental retardation, X-linked 23, nonspecific
300047	Mental retardation, X-linked 20
300048	Intestinal pseudoobstruction, neuronal, X-linked
300049	Nodular heterotopia, bilateral periventricular
300049	BNPH/MR syndrome
300055	Mental retardation with psychosis, pyramidal signs, and macroorchidism
300088	Epilepsy, female restricted, with mental retardation
300100	Adrenoleukodystrophy
300100	Adrenomyeloneuropathy
300104	Mental retardation, X-linked nonspecific, 309541
300123	Mental retardation with isolated growth hormone deficiency
300126	Dyskeratosis congenita-1, 305000
300300	XLA and isolated growth hormone deficiency, 307200
300300	Agammaglobulinemia, type 1, X-linked
301000	Thrombocytopenia, X-linked, 313900
301000	Wiskott-Aldrich syndrome
301201	Amelogenesis imperfecta-3, hypoplastic type
301300	Anemia, sideroblastic/hypochromic
301500	Fabry disease
301590	Anophthalmos-1
301830	Arthrogryposis, X-linked (spinal muscular atrophy, infantile, X-linked)
301835	Arts syndrome
301845	Bazex syndrome
301900	Borjeson-Forssman-Lehmann syndrome
302060	Noncompaction of left ventricular myocardium, isolated
302060	Barth syndrome
302060	Cardiomyopathy, X-linked dilated, 300069
302060	Endocardial fibroelastosis-2
302960	Chondrodysplasia punctata, X-linked dominant
303400	Cleft palate, X-linked
303630	Alport syndrome, 301050
303630	Leiomyomatosis-nephropathy syndrome, 308940
303631	Leiomyomatosis, diffuse, with Alport syndrome
303700	Colorblindness, blue monochromatic
303800	Colorblindness, deutan
303900	Colorblindness, protan
304340	Mental retardation, X-linked, syndromic-5, with Dandy-Walker malformation, basal ganglia disease, and seizures
304500	Deafness, X-linked 2, perceptive congenital
304700	Mohr-Tranebjærg syndrome
304700	Deafness, X-linked 1, progressive
304700	Jensen syndrome, 311150
304800	Diabetes insipidus, nephrogenic

305400	Aarskog-Scott syndrome
305450	FG syndrome
305900	Favism
305900	G6PD deficiency
305900	Hemolytic anemia due to G6PD deficiency
306700	Hemophilia A
306900	Hemophilia B
306995	[Homosexuality, male]
307150	Hypertrichosis, congenital generalized
307700	Hypoparathyroidism, X-linked
308000	HPRT-related gout
308000	Lesch-Nyhan syndrome
308300	Incontinentia pigmenti, sporadic type
308310	Incontinentia pigmenti, familial
308840	Spastic paraplegia, 312900
308840	Hydrocephalus due to aqueductal stenosis, 307000
308840	MASA syndrome, 303350
309000	Lowe syndrome
309200	Manic-depressive illness, X-linked
309300	Megalocornea, X-linked
309470	Mental retardation, X-linked, syndromic-3, with spastic diplegia
309500	Renpenning syndrome-1
309548	Mental retardation, X-linked, FRAXE type
309605	Mental retardation, X-linked, syndromic-4, with congenital contractures and low fingertip arches
309610	Mental retardation, X-linked, syndromic-2, with dysmorphism and cerebral atrophy
309620	Mental retardation-skeletal dysplasia
309900	Mucopolysaccharidosis II
310300	Emery-Dreifuss muscular dystrophy
310400	Myotubular myopathy, X-linked
310460	Myopia-1
310460	Bornholm eye disease
310490	Cowchock syndrome
311050	Optic atrophy, X-linked
311300	Otopalatodigital syndrome, type I
311510	Waisman parkinsonism-mental retardation syndrome
311850	Phosphoribosyl pyrophosphate synthetase-related gout
312080	Pelizaeus-Merzbacher disease
312080	Spastic paraplegia-2, 312920
313850	Thoracoabdominal syndrome
314300	Goeminne TKCR syndrome
314400	Cardiac valvular dysplasia-1
600040	Colorectal cancer
600045	Xeroderma pigmentosum, group E, subtype 2
600079	Colon cancer
600105	Retinitis pigmentosa-12, autosomal recessive

600119	Muscular dystrophy, Duchenne-like, type 2
600119	Adhalinopathy, primary
600138	Retinitis pigmentosa-11
600143	Epilepsy, progressive, with mental retardation
600151	Bardet-Biedl syndrome 3
600163	Long QT syndrome-3
600179	Leber congenital amaurosis, type I, 204000
600194	Ichthyosis bullosa of Siemens, 146800
600202	Dyslexia, specific, 2
600223	Spinocerebellar ataxia-4
600231	Palmoplantar keratoderma, Bothnia type
600258	Colorectal cancer, hereditary nonpolyposis, type 3
600261	Ehlers-Danlos-like syndrome
600266	Resistance/susceptibility to TB, etc.
600276	Cerebral arteriopathy with subcortical infarcts and leukoencephalopathy, 125310
600281	Non-insulin-dependent diabetes mellitus, 125853
600281	MODY, type 1, 125850
600319	Diabetes mellitus, insulin-dependent, 4
600332	Rippling muscle disease-1
600512	Epilepsy, partial
600525	Trichodontoosseous syndrome, 190320
600528	CPT deficiency, hepatic, type I, 255120
600536	Myopathy, congenital
600623	Prostate cancer, 176807
600759	Alzheimer disease-4
600807	Bronchial asthma
600808	Enuresis, nocturnal, 2
600811	Xeroderma pigmentosum, group E, DDB-negative subtype, 278740
600839	Barter syndrome, 241200
600850	Schizophrenia disorder-4
600856	Beckwith-Wiedemann syndrome, 130650
600882	Charcot-Marie-Tooth neuropathy-2B
600897	Cataract, zonular pulverulent-1, 116200
600900	Muscular dystrophy, limb-girdle, type 2E
600918	Cystinuria, type III
600956	Persistent Mullerian duct syndrome, type II, 261550
600957	Persistent Mullerian duct syndrome, type I, 261550
600958	Cardiomyopathy, familial hypertrophic, 4, 115197
600971	Deafness, autosomal recessive 6
600975	Glaucoma 3, primary infantile, B
600977	Cone dystrophy, progressive
600995	Nephrotic syndrome, idiopathic, steroid-resistant
600996	Arrhythmogenic right ventricular dysplasia-2
601105	Pycnodysostosis, 265800
601154	Cardiomyopathy, dilated, 1E

601202	Cataract, anterior polar-2
601208	Insulin-dependent diabetes mellitus-11
601226	Progressive external ophthalmoplegia, type 2
601238	Cerebellar ataxia, Cayman type
601277	Ichthyosis, lamellar, type 2
601284	Hereditary hemorrhagic telangiectasia-2, 600376
601318	Diabetes mellitus, insulin-dependent, 13
601385	Prostate cancer
601410	Diabetes mellitus, transient neonatal
601412	Deafness, autosomal dominant 7
601458	Inflammatory bowel disease-2
601596	Charcot-Marie-Tooth neuropathy, demyelinating
601649	Blepharophimosis, epicanthus inversus, and ptosis, type 2
601650	Paraganglioma, familial nonchromaffin, 2
601652	Glaucoma 1A, primary open angle, juvenile-onset, 137750
601666	Insulin-dependent diabetes mellitus-15
601669	Hirschsprung disease, one form
601680	Distal arthrogryposis, type 2B
601728	Bannayan-Zonana syndrome, 153480
601728	Cowden disease, 158350
601728	Endometrial carcinoma
601728	Lhermitte-Duclos syndrome
601744	Systemic lupus erythematosus, susceptibility to, 1
601757	Rhizomelic chondrodysplasia punctata, type 1, 215100
601769	Osteoporosis, involutional
601769	Rickets, vitamin D-resistant, 277440
601777	Cone dystrophy, progressive
601780	Ceroid-lipofuscinosis, neuronal-6, variant late infantile
601800	[Hair color, brown]
601843	Hypothyroidism, congenital, 274400
601844	Pseudohypoaldosteronism type II
601846	Muscular dystrophy with rimmed vacuoles
601863	Bare lymphocyte syndrome, complementation group C
601868	Deafness, autosomal dominant 13
601884	[High bone mass]
601928	Monilethrix, 158000
601969	Medulloblastoma, 155255
601969	Glioblastoma multiforme, 137800
601975	Ectodermal dysplasia/skin fragility syndrome
601990	Neuroblastoma
602023	Barter syndrome, type 3
602025	Obesity/hyperinsulinism, susceptibility to
602084	Endometrial carcinoma
602089	Hemangioma, capillary, hereditary
602096	Alzheimer disease-5
602116	Glioma

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